Applying AI for the good of humanity, a tool for early detection of preventable blindness in diabetes patients is here

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Is Artificial Intelligence (AI) going to save the world? Likely not if you are a fan of the Terminator series made famous by Arnold Schwarzenegger or the Dune novels written by Frank Herbert, amongst other potential humanity ending scenarios. But until AI becomes self-aware, there is certainly a lot of good the data processing and analysis tools provided through machine learning can do to help humanity achieve significant improvements to our health and well-being until we all become slaves to our computer overlords.

One publicly traded company using AI that doesn't already have a Trillion dollar market cap is DIAGNOS Inc. (TSXV: ADK | OTCQB: DGNOF). DIAGNOS is a Canadian corporation dedicated to the early detection of critical health problems based on its FL*AI*RE Artificial Intelligence (AI) platform. FL*AI*RE allows for quick modifying and developing of applications such as CARA (Computer Assisted Retina Analysis). CARA's image enhancement algorithms provide sharper, clearer and easier-to-analyze retinal images. CARA is a cost-effective tool for real-time screening of large volumes of patients. CARA has been cleared for commercialization by the following regulators: Health Canada, the FDA (USA), CE (Europe), COFEPRIS (Mexico) and Saudi FDA (Saudi Arabia).

DIAGNOS primarily markets CARA as a software platform which

assists health specialists in the detection of diabetic retinopathy. Diabetic retinopathy (also referred to as macular edema) is a diabetes complication that affects the eyes. It's caused by damage to the blood vessels of the light-sensitive tissue at the back of the eye (retina). At first, diabetic retinopathy might cause no symptoms or only mild vision problems, but it can lead to blindness. The condition can develop in anyone who has type 1 or type 2 diabetes.

A patient may experience no symptoms of diabetic retinopathy until the condition becomes severe. Early detection and treatment can prevent 85% to 95% of blindness cases. Thus it makes a lot of sense that everyone with diabetes gets screened for diabetic retinopathy at least once a year due to the fact that it is estimated that up to 347,000 people every year could go blind from a curable disease if they aren't screened early enough. This seems like a very good use of AI for the betterment (and not enslavement) of humanity.

In February, DIAGNOS and École de Technologie Supérieure (ÉTS), a world-renowned technical university announced that they would be presenting the results of their ground-breaking research on mass screening for macular edema using Optical Coherence Tomography (OCT) at ARVO 2023, the Annual Conference of the Association for Research in Vision and Ophthalmology (ARVO). The screening process for macular edema has been revolutionized by the research carried out by DIAGNOS and ÉTS, resulting in impressive efficiency of algorithms, fidelity of the "heat map" type decision-making tool, and an extremely low rate of "false positives." It is anticipated that DIAGNOS' AI-enabled screening process could become the go-to method adopted by healthcare professionals in the future.

I'm not worried about the AI being deployed by DIAGNOS taking over the world anytime soon. However, I am excited to see where

this Company goes next. I can’t help but think it’s a good thing to become the de facto tool for early detection of preventable blindness in diabetes patients. That’s got to be worth something. But there’s also the springboard of having a successful platform in place to build off of. Time will tell if this AI story starts making headlines with all the rest of them out there.

DIAGNOS Inc. trades at a market cap of C$35 million.

Promising Advancements in Gene Therapy are Leading to Potential Investment Opportunities

written by InvestorNews | July 20, 2023

Today’s discussion is about a topic that fascinates me even though I can say that I do not fully understand it, and that is gene therapy. I am not talking about the self-serving gene editing done in vitro in an attempt to ensure your child has blue eyes and a greater likelihood of being the smartest kid in class. Although I am sure it would make a great ethical debate as to where one draws the line on this subject. What I am talking about is the development of gene therapies in an attempt to limit or even cure diseases.

Advances in gene therapies

Advances in this field have been nothing short of miraculous over the last 20 years, since the completion of the Human Genome Project ("HGP") in 2003. As a refresher, the goal of this international project was to determine the base pairs that make up human DNA ("Deoxyribonucleic acid"), and to identify, map, and sequence all the genes of the human genome from both a physical and a functional standpoint.

With that said, the project was not able to sequence all of the DNA found in human cells, simply specific regions of the nuclear genome, which make up 92% of the human genome. It was not until 2022 that the complete sequencing of all 24 human chromosomes was completed and even that is up for debate.

The Human Genome Project

Why was the completion of the HGP such a big deal? The sequencing of the human genome can hold many benefits including ways to identify the genetic variants that increase the risk for common diseases like cancer and diabetes. It can help researchers understand diseases including:

- Genotyping of specific viruses for direct treatment;
- Identification of mutations linked to different forms of cancer;
- The design of medication and more accurate prediction of their effects; and,
- Even the evolution of diseases.

Plus, you can now find out if you have some long-lost relatives anywhere in the world by simply putting some spit in the mail. But again, I digress.

FDA to accelerate the approval of gene therapies

The big news in this field came out last week from none other than the U.S. Food and Drug Administration ("FDA"). Agency official Peter Marks (head of the FDA's Center for Biologics Evaluation and Research) stated that the FDA needs to start accelerating approvals for advancing gene therapies for rare diseases. Taking a page from the common sense manual, as opposed to the big book of bureaucracy, he suggested this would be particularly important for ultra-rare diseases, for which there are too few patients to run placebo-controlled studies. According to the report Marks said, "*When you're making a gene therapy for 10, 20 people a year, the concept that you're going to do a randomized clinical trial falls apart pretty quickly.*" Sounds pretty logical to me, but sadly there seems to be a shortfall in logic in a lot of policies these days.

Potentially good timing for investment opportunities

This sounds like the makings of a potentially good investment opportunity, over and above the possible benefits to society as a whole. But here's where I'm not sure I can be a lot of help. As I noted above, gene therapy fascinates me but I do not know enough about the science to pick a winner versus a wannabe. So instead I will simply present one company in this field that has a story that I find interesting (even though they have a terrible-looking chart). Think of this as an example of what could be with this technology and what it could potentially do for humankind.

The company is Taysha Gene Therapies, Inc. (NASDAQ: TSHA), a clinical-stage gene therapy company focused on developing and

commercializing adeno-associated virus (AAV) based gene therapies for the treatment of monogenic diseases of the central nervous system (“CNS”). One of the treatments they are developing (TSHA-102) is a gene transfer therapy for Rett syndrome, a rare inherited genetic neurodevelopmental disorder. The Company is on track to dose the first patient and deliver first-in-human adult data for TSHA-102 in the first half of 2023. Without getting into the details of what Rett Syndrome is, or the administration and composition of TSHA-102 (which there is no hope in hell I could pull off), I think it is amazing that in a matter of months, we could be getting feedback on whether this treatment is showing signs of being successful or not.

Final thoughts

As I noted at the beginning, there are probably a lot of people out there debating how far we can ethically take gene therapy, and for good reason. However, if politicians and scientists can stay focused on the “greater good”, perhaps we could start to see people with these rare and ultra-rare diseases actually have some hope. And if gene therapy advances enough to start curing the likes of cancer and diabetes then I suggest we hold a parade and a giant party for anyone and everyone involved.

Taysha Gene Therapies – 1-Year Stock Chart

Source: S&P Capital IQ

NuGen Medical Devices provide easy and painless injections without needles

written by InvestorNews | July 20, 2023

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.

Diagnos' André Larente on Entering the DACH and Central European Healthcare Market

written by InvestorNews | July 20, 2023

In a recent InvestorIntel interview, Tracy Weslosky spoke with

André Larente President of Diagnos Inc. (TSXV: ADK | OTCQB: DGNOF) about Diagnos' distribution agreement to enter the healthcare market in both DACH and Central European countries.

In this InvestorIntel interview, which may also be viewed on YouTube (click here to subscribe to the InvestorIntel Channel), Mr. Larente went on to say that the region is a very large market as a large majority of patients suffer from diabetes and hypertension. He also provided an update on a successful Proof-of-Concept pilot study of its stroke predictor (CARA-ST) based on images of the retina. He said that with a 99% success rate, the pilot study was very successful in identifying people at an early stage of being at risk of having a stroke.

To watch the full interview, click here.

About Diagnos Inc.

DIAGNOS is a publicly traded Canadian corporation dedicated to early detection of critical health problems based of its FLAIRE Artificial Intelligence (*AI*) platform. FLAIRE allows for quick modifying and developing of applications such as CARA (Computer Assisted Retina Analysis). CARA's AI-based image enhancement algorithms provide sharper, clearer and easier-to-analyze retinal images. CARA is a cost-effective tool for real-time screening of large volumes of patients. CARA has been cleared for commercialization by the following regulators: Health Canada, the FDA (USA), CE (Europe), COFEPRIS (Mexico) and Saudi FDA (Saudi Arabia).

To learn more about Diagnos Inc., click here

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If you have any questions surrounding the content of this interview, please email info@investorintel.com.

Does Sernova have a cure for Type 1 Diabetes?

written by InvestorNews | July 20, 2023

There are many impressive companies around the world trying to solve the world's problems and make this a better place to live. When the right group of people can find the right environment, tremendous results can happen. Today we are going to look at one of those situations – Sernova Corp. (TSXV: SVA | OTCQB: SEOVF). Sernova is a regenerative medicine therapeutics platform company developing technologies using a medical device and immune protected therapeutic cells (i.e. human donor cells, corrected human cells and stem-cell-derived cells) to improve the treatment and quality of life of people with chronic metabolic diseases such as insulin-dependent diabetes, blood disorders, and other diseases treated through replacement of proteins or hormones missing or in short supply within the body.

That's quite a mouthful so let's try and break that down a little. Sernova is a clinical-stage company developing products for the treatment of chronic debilitating diseases. They are working on commercially viable treatments for things like diabetes, hemophilia and neurological diseases with therapeutic cells placed into its proprietary Cell Pouch System, an implanted and scalable medical device.

Sernova's is focusing on treating chronic diseases with regenerative medicine. Regenerative medicine can be described as the branch of medicine that develops methods to regrow, repair or replace damaged or diseased cells, organs or tissues. It provides the potential of a functional cure vs. masking the underlying disease and long-term treatment of symptoms with prescription medicines.

To that end, what has the market excited about Sernova is their Cell Pouch System, in particular its success in treating Diabetes. Effectively this is a novel implantable and scalable medical device which forms a natural environment in the body for the housing and long-term survival and function of therapeutic cells. These therapeutic cells release necessary proteins or factors missing from the body to treat chronic diseases as an alternative to daily administration of drugs. On Jan 15, 2021, the company announced positive preliminary safety and efficacy data from the ongoing U.S. Phase I/II Cell Pouch clinical trial for Type-1 Diabetes. In fact, one patient has now been insulin free (requiring no injectable insulin) for nine months with optimal glucose control.

This news vaulted the stock from $0.75 to over $2.00. The reason for the excitement over this news is that Sernova's proposed solution for Type-1 Diabetes represents a potential commercial opportunity of $30 billion for the company. However, there are a lot more applications for the Cell Pouch System that Sernova is concurrently working on. They have completed a pre-clinical proof-of-concept for Hemophilia with a $10 billion estimated market size and have a clinical program under development for a Thyroid program with an estimated $2.2 billion market opportunity.

This is pretty impressive stuff but it's by no means an overnight success story. The company began trading under the name Sernova in 2006 with the first positive results from a long-term study evaluating the Cell Pouch System in a pre-clinical model of diabetes in July 2010. This has been years in the making but is finally getting close to a deliverable, and hopefully very profitable, product.

If you or anyone you know is afflicted with any of these maladies, which therapeutic would you sign up for? An existing

regime of regularly administered drugs or an implant that fixes the problem at source and requires little to no maintenance. I'm pretty sure I know what I'd sign up for assuming nothing discouraging arises from clinical trials.

With that said, there is currently no revenue being generated although they are receiving grant money to support their Diabetes research. The current burn rate is a modest $1.0 – $1.5 million per quarter and they have over $30 million of cash following a $23 million financing that closed Mar 1, 2021. So funding shouldn't be an issue for the foreseeable future. The company has roughly 257 million shares outstanding with another 50+ million warrants making the current market cap a little over $400 million. This stock is now on the radar but with plenty of potential given the markets they are trying to tap into.

Diagnos' Andre Larente on the benefits of using AI for the early detection of critical health issues

written by InvestorNews | July 20, 2023

"Our (AI) technology works, its in production (CARA). We are fully funded….the markets we are going after are extremely big…" are excerpts that Andre Larente of Diagnos Inc. (TSXV: ADK | OTCQB: DGNOF) offered Tracy Weslosky of InvestorIntel in a recent interview.

Tracy starts the interview by identifying the increasing interest from the global market on the Canadian biotech sector. She asks Andre to identify their competitive advantages for investors seeking to understand this market better. Andre explains “we specialize in using AI to tackle some of the medical imaging issues in the world.”

Click here to hear the full interview and learn more about how Diagnos offers early detection medical tests for a wide spectrum of critical medical issues that range from diabetes to cardiovascular issues.

About Diagnos:

Diagnos Inc. (TSXV: ADK | OTCQB: DGNOF) is a publicly traded Canadian corporation with a mission of early detection of critical health issues through the use of its Artificial Intelligence (“AI”) tool CARA (Computer Assisted Retina Analysis). CARA is a tele-ophthalmology platform that integrates with existing equipment (hardware and software) and processes at the point of care. CARA’s Artificial Intelligence image enhancement algorithms make standard retinal images sharper, clearer and easier to read. CARA is accessible securely over the internet and is compatible with all recognized image formats and brands of fundus cameras, and is EMR compatible. CARA is a cost-effective tool for screening large numbers of patients in real-time. CARA complies with local regulations, is FDA cleared for commercialization in the United States of America is Health Canada licensed for commercialization in Canada and is CE marking compliant in Europe.

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