The EYES have it, Early Stage Detection of Diabetes and Cardiovascular Disease

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Using Artificial Intelligence (AI) to better image and analyze the retina of the eye to detect early stage disease is a potential game changer in the prevention of blindness and cardiovascular diseases such as stroke, heart attack, and diabetic related disease.

Today's company is pioneering its work in this field with USA clinical trials commencing soon and a global commercialization rollout already underway. The company is Diagnos Inc. (TSXV: ADK | OTCQB: DGNOF) ("DIAGNOS").

DIAGNOS has developed an Artificial Intelligence (AI) tele-ophthalmology platform, which uses Computer Assisted Retina Analysis (CARA) to examine a patient's retina (back of the eye) for the early detection of diseases, such as diabetes, and conditions such as cardiovascular disease, hypertension and stroke. CARA's image enhancement algorithms provide sharper, clearer and, thus, easier-to-analyze retinal images.

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 already operates in 16 countries, with 131 screening sites, has 222,034 patients under their care, and has performed more than 400,000 retinographies around the world. DIAGNOS' CARA achieves great precision in diabetic retinopathy pre-diagnoses, reaching a sensitivity of 98.4%, specificity of 97.6% and a certainty of 97.9%.

DIAGNOS uses an AI technology know as CARA to better analyze the retina of the eye, a key way to detect early cardiovascular disease



Source: DIAGNOS website

DIAGNOS achieves two firsts and an eight at the GAMMA (*G*laucoma gr*A*ding from *M*ulti-*M*odality im*A*ges) contest

At the recent GAMMA competition, DIAGNOS achieved some stunning results including two firsts and an eighth place out of a total of 566 teams. Now that's super impressive!

The October 28, 2021 announcement stated: "DIAGNOS was the only one, of the top 8 teams, that competed with a marketed, commercialized system. DIAGNOS used the same platform that it currently uses for diabetic retinopathy screening, which is marketed worldwide, while the others were principally from academic institutions."

Key results included:

- Localization of macula fovea in fundus images. **(DIAGNOS placed 1st overall)**
- Segmentation of optic disc and cup in fundus images. **(DIAGNOS placed 1st overall)**
- Grading glaucoma using multi-modality data. **(DIAGNOS placed 8th overall)**

USA clinical trial for the early detection and prevention of stroke using CARA-STROKE

On November 23 DIAGNOS announced: "DIAGNOS will start a clinical trial study in the USA commencing December 6th, 2021 for early

detection and prevention of stroke using CARA-STROKE." The trial aims to confirm early Proof-of-Concept results that showed a strong potential in the early detection of stroke through the inspection and micro circulation analysis of the retina.

The upcoming USA clinic trial at the CommonSpirit Health Research Institute, Chattanooga Center for Neurologic Research LLC, is intended to further prove the effectiveness of DIAGNOS's CARA technology.

Note: CommonSpirit Health is a non-profit national Catholic healthcare system that operates 137 hospitals and more than 1,000 care sites across 21 states of the USA.

Some facts about cardiovascular disease including stroke

- Stroke causes 1 out of every 20 deaths.
- The management of stroke represents a cost of around US$34 billion per year in the United States.
- According to the WHO, 15 million people suffer a stroke worldwide each year. Of these, 5 million die and another 5 million are permanently disabled.
- Europe averages approximately 650,000 stroke related deaths each year.
- Worldwide Research Institutes says that the worldwide market size for stroke management will hit over $66 billion by 2023.

Source: DIAGNOS announcement

Clearly, the above facts speak volumes as to the need to diagnose cardiovascular disease early. And that is exactly what DIAGNOS does.

Not just an idea, commercialization has begun

As previously discussed in some detail here, DIAGNOS

commercialization is gaining momentum. Some examples include:

- July 22, 2021 – DIAGNOS announced the official opening of the AI Assisted screening clinic at Magrabi Hospital in Saudi Arabia. Magrabi Hospitals and Centers has **thirty-four branches in the Middle East.**
- July 28, 2021 – DIAGNOS announced a pilot in Spain with three franchisees from Opticalia Group.
- August 16, 2021 – DIAGNOS announced signing a Memorandum of Understanding (MoU) for a distribution agreement with Essilor International. **Essilor International is the world's leading ophthalmic optics company.**
- September 2, 2021 – DIAGNOS announced a three-year contract renewal with Optina Diagnostics providing a Telemedicine Platform to support their early detection of Alzheimer's Disease.
- September 14, 2021 – DIAGNOS announced a 3-year contract with Cielo Vista Eye Clinic in Mexico.
- September 16, 2021 – DIAGNOS announced a multi-year contract with Juarez Health & Medical Tourism Cluster in Mexico, who focuses on medical tourism and **serves between 10-12,000 patients a day.**

Closing remarks

DIAGNOS's CARA technology is clearly a winner. It has already won numerous global contracts and the recent GAMMA competition. Any potentially positive results from the upcoming CommonSpirit Health Research Institute clinical trial would just be icing on the cake.

With 15 million people suffering a stroke worldwide each year the time has come for better early diagnosis to allow earlier treatment and prevention, potentially reducing this terrible statistic.

Diagnos Inc. trades on a market cap of just C$30 million which seems very small when compared to the massive market for cardiovascular disease diagnosis. One to follow closely in the years ahead.