# Al-Powered Innovation for Primary Care.

Cardio vascular diseases are responsible for more deaths than all cancers combined, and the fight starts in Primary Care, where patients expect heart diseases to be first detected during patient screening.

## The need for innovation in heart disease diagnostics in Primary Care

However, it is a little-known fact that the current State-of-the-Art medical device used in Primary Care, can only detect/diagnose about 44% of all common heart disease. This limitation makes ECG's lack of overall effectiveness highly questionable as a first use diagnostic device for use in widespread patient screening for heart diseases in Primary Care.

This limitation is understandable, given ECG's electrical nature, which can only detect diseases that have or leave some kind of electrical signature. That means that it cannot detect or diagnose diseases typically associated with the heart's acoustics or its morphology or physiology (the way the heart sounds, is structured and moves).

Yet, for lack of a suitable medical innovation, ECG continues to be the medical device most commonly used in Primary Care, and are responsible for most false diagnoses, affecting millions of patients yearly, and burdening the healthcare system and patients with millions in unnecessary healthcare costs, impacting effectiveness, affordability and accessibility – until today!

#### **Heartcare innovation**

Driven by the need of a more suitable diagnostic device for use in Primary Care, Cardio-Phoenix<sup>™</sup> developed an AI Powered, novel bio-signal heart diagnostic device that can help detect of up to 94% of all common heart diseases, by prevalence, including all ECG diseases, and do it in Primary Care, called Cardio-HART<sup>™</sup>.

Compared to ECG's 44% (and this with automated algorithm support), Cardio-HART's 94% is a game changer in Primary Care.

Highly effective, affordable and easy to use. It is ideal for use as a widespread screening device for symptomatic an asymptomatic patient populations.

## **Supporting General Practitioners at Primary Care:**

One of the main roles of the GP in Primary Care is to identify, the earlier onset of any heart disease and determine the patient's cardiac status.

Cardio-Hart AI-Powered technology can greatly assist Primary Care GP's as one of the main challenges they face is the lack of specialized knowledge of the heart needed to more completely understand their patient's cardiac status.

Cardio-HART can identify and diagnose a wider range of heart diseases, dysfunctions and abnormalities than the current State-of-the-art, that is currently in used for widespread screening in Primary Care.

This will further assist GPs to be better determine the most appropriate means to deal with the cardiac status, whether to treat locally under preventative and pharma logical treatment options or to refer the patient to the next level care.

## Al Powered Heartcare - Reducing "Mis"-diagnosis and "Missed"-Diagnosis

Nowhere is AI powered more beneficial than in the reduction in both False Positives (FP) and in False Negatives (FN).

False positive means that patient is healthy but is diagnosed as unhealthy. When diagnosed FP, a patient is typically referred to a higher level of healthcare and subjected to invasive equipment, unnecessary stress, much riskier and costly higher healthcare procedures.

But the greatest beneficial impact would be in the reduction of false-negatives more known as FN. It means that the patient has a disease but the ECG device did not detect or diagnose it, so the GP sends them home - the disease was missed. The usual outcome for a FN diagnosed patients is delayed access to treatment, therefore allowing disease progression resulting in increased morbidity. The opportunity to treat the disease at onset is missed. Sadly, the outcome of many FN results in the patient getting an ambulance ride.

#### Summary

There is a serious need for more effective Primary Care medical device. ECG's limited capabilities of detecting only 44% of all heart diseases leads to false diagnoses that affects millions of patients yearly, and costs the healthcare systems billions more.

Cardio-HART or CHART for short, with its AI potential in Primary Care lies in its ability to assist GPs better understand their patient's cardiac status by combining exciting novel medical technology innovations with AI Powered bio-signal; representative of the electrical, acoustic and physiological aspects of the heart. Using CHART not only enables accurate and effective detection and diagnosis of disease onset, but does it for a much broader range of heart diseases, dysfunctions and abnormalities, and often much earlier.

This is impossible using the State-of-the-Art ECG devices currently used in Primary Care.

And the earlier heart disease onset can be detected, the earlier the treatments can be initiated, the lower the risks, the lower the costs, and more importantly, the better the outcome for patients.

Cardio-HART<sup>™</sup> (CHART) a new Breakthrough for Primary Care Heart care.