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| **Project Name** | HeartBeat | |

**WHY?**

Background information to educate the reader

High Blood Pressure (BP)/Hypertension is a common condition in South Africa and a risk factor for heart attacks, stroke, renal disease and blindness. People with hypertension are usually unaware that they have the condition, unless the BP has been measured at a health facility. In South Africa, Hypertension has been dubbed ‘the silent pandemic’. Furthermore hypertension frequently co-exists with other risk factors for chronic diseases of lifestyle such as diabetes and obesity.[[1]](#footnote-1)

Relevance or importance of problem

1. 1 in 3 adults have High Blood Pressure.
2. Only 52% of Hypertension victims have their BP under control
3. BP levels vary by race and ethnicity
4. High BP increases risk for dangerous health condition

* First Heart Attack – 7 in 10 people having their first heart attack have high blood pressure
* First Stroke – Approximately 8 in 10 people having their first stroke have high blood pressure
* Chronic (Long Lasting) Heart Failure – about 7 out of every 10 people with chronic heart failure have high blood pressure

1. Lastly 1 in 5 individuals do not know that they have high blood pressure

Previous related work by others

The Kenyan Luo migration study of Poulter[[2]](#footnote-2) was first to show that migration of people living in traditional rural villages on the northern shores of Lake Victoria to the urban settings of Nairobi was associated with an increase in BP. The urban migrants had higher body weights, pulse rates and higher urinary sodium/potassium ratios than those who remained in the rural areas[[3]](#footnote-3)

This suggests a marked changed in the diet of the new arrivals in Nairobi with a higher salt and calorie intake along with a reduced potassium intake due to consuming less fruit and vegetables

**HOW?**

Collection of data and interpretations to pick out certain lifestyles habits to promote or condemn

Patients will be able to read BP results with the aid of an electronic Blood Pressure Monitoring Device which is easy to use and doesn’t require any form of training – Data provided by the device will include systolic, diastolic and pulse rate readings

Patients will be required to continually track their weight reading

And furthermore readings (determinants) to be required by medical professionals.

*In addition*

Mobile Technology For Hypertension Patients – It may become easier to allow High BP patients to record daily activities or dietary intakes affecting the individual’s BP to allow medical professionals to analyse as necessary and offer expert advice according to each individual’s habits.

Online Reporting for Medical Professionals & Researchers – This will allow medical professionals to specifically target an individuals or group (race, age, etc.) lifestyle habits and offer advice as deemed appropriate. This will also allow Statistician/Researcher more accurate figures

Technologies to be used would include Android Powered Devices for data related capturing – And Web Representation of data with the additional aid of graphs for reporting purposes.

The use of technology will assist in ensuring that reports are timely and accurate. This will have a positive impact on the relevancy of data.

**WHO & WHAT?**

Persons involved in the development of the solution will include General Practitioners, Nurses, Dieticians and Gym Trainers

The above mentioned will be able to take interest in the interpretations of the information generated to enable them to assist hypertension patient according to their respective roles.

As discussed – High BP patients will be able to input data to be tracked – in addition, to insure that the personal information of the High BP individual isn’t divulged, they will then be enabled to allow a pre-registered Medical Professional access to their individual records.

Researchers will be able to get hold of ‘anonymous data’ – Individual Information access will be prohibited.

**WHERE?**

The applications will be accessible globally given that there is an active internet connection as information will be held and managed centrally. Mobile Devices and their portability will enable the patients to input BP related data from virtually anywhere. Medical Professionals will be able to access processed data with the aid of a web browser – preferably via PC/Laptop or Large Display Tablets.

1. Hypertension in South Africa – Chronic Diseases of Lifestyle in South Africa since 1995 - 2005 [↑](#footnote-ref-1)
2. Poulter N, Khaw KT, Hopwood BE, Mugambi M, Peart WS, Rose G, et al. The Kenyan Luo migration study: observations on the initiation of a rise in blood pressure. BMJ 1990;300:967-972 [↑](#footnote-ref-2)
3. Poulter N, Khaw KT, Hopwood BE, Mugambi M, Peart WS, Sever PS. Determinants of blood pressure changes due to urbanization: a longitudinal study. J Hypertens 1985; 3(Suppl):S375-377. [↑](#footnote-ref-3)