1. I have been practicing as a health professional for the past 25 years

2. I am a medical practitioner

3. My area of specialization is in the field of Oncology, the care of cancer patients

4. I do believe that health literacy can combat hypertension. Health literacy is the degree to which the average Jamaican patient has the capacity to obtain, process and understand basic health information and services in order to make appropriate health decisions about hypertension. Basic strategies may include simple steps like encouraging home blood pressure monitoring. Clinical staff should be trained to motivate patients to change their health behaviors and assess for patient’s understanding of instructions that they are given.

5. Key information Jamaican needs to know about hypertension: i) Normal  blood pressure is < 120/80 mmhg. ii) The risk of hypertension increases with age and is disproportionately higher among blacks than in other races. iii) Hypertension is known as the silent killer because it often has no symptoms. iv) Hypertension is treatable with medications but it can be reduced by making lifestyle changes including regular exercise, eating less salty foods, avoid smoking cigarettes or drinking too much alcohol. v) If left untreated hypertension can lead to blindness and death from heart attack, heart failure, stroke and kidney disease.

6. Most Jamaicans affected by high blood pressure are those in the lower to middle income bracket. The vast majority of those affected are generally not accepting of information that would increase their health literacy towards hypertension. This is because in the community hypertension comes with a stigma. They often live in denial and the diagnosis remains shrouded in secrecy and is not shared among friends or other family members. Many are also fearful of a lifelong commitment to anti- hypertensive medication and a lot of hypertensive men feel anti- hypertensive drugs affect their sexuality by decreasing their sexual drive. Most importantly, many feel they are not sick because they look and feel well. Rather than seek informative ways to improve their health, they try to drink lime juice or other ‘bush tea’ or they put the blame on barriers to access, understand and use hypertension literacies. For example, they would pinpoint physical access to hospitals/healthcare such as poor roads, long distances and transportation costs. Among those who cannot read, print literature is ignored and lifestyle modification messages are ineffective in the absence of education, support and available resources. Many complain that free medicine is often not available at the government hospitals. When they are referred to pharmacies where they have to pay for their medication, which most cannot afford, they’ll chose to ignore advice and not purchase or take their anti-hypertensive medication.

7.  Methods to improve hypertensive health literacy includes a Jamaica Government Hypertension action plan. The Ministry of Health should set a number of objectives for them to achieve over a decade including i) more cost effective, equitable, safer and higher quality health services. ii)Easy access to health. iii) Clear and concise information to services and assistance. iv) Empowering  health professionals through continued education  to improve communication.  Other approaches include:

- Building hypertensive health literacy during early school years  including healthy eating, daily reading to become health champions of the future.

- Health providers should provide patients with verbal instructions rather than detailed written information instructions about hypertension and hypertensive medications.

- Health providers should demonstrate medical instructions and have  patients repeat the information given to them to ensure it’s understood.

- Health services should use calendars and charts to show exact dosage and dosing times rather than how many times per day medications should be taken in order to improve medicine adherence.

- Use of visual aids such as videos that show self care, healthy foods, lifestyle modifications should be displayed in patient waiting areas and on television.

-Follow up calls from doctors offices should be encouraged to ensure compliance to medications and proper outcomes for hypertension

- Using trained community workers and Social Workers to relay health messages, assist with in home visits, encourage and help with life style modifications and engage other family members to disseminate key health information more widely.

8. Yes I would  recommend a mobile application to my patients because the effective treatment  of hypertension requires self management by patients. Mobile applications are effective because the information is readily accessible to patients, provides updates and feedback on a regular basis so that the appropriate adjustments can be made by the user.  This will foster better compliance to medications and improve outcomes for hypertensive patients. Patients are more empowered because they can visualize results in real time so they feel more in control of the situation rather than leaving  their care to follow up visits with doctors. Due to the influence of COVID-19, virtual care and self care are assuming greater significance medicine , especially for those living in isolation. Therefore,  I believe mobile hypertensive apps are a necessary part of healthcare in the future.

9. The proposals I would make for a mobile application include but are not limited to

- Information should be simple and written in English.

- The device should record, store and analyze blood pressure readings

- The device should provide feedback related to information captured to ensure dosages aren’t missed

- The  collected data must be connected to the chief

healthcare provider so that professional advice is always on hand if necessary

- The app should provide information related to healthy diet, exercising, appropriate weight and managing stress

- the application should be interactive ie generate rewards such as smiley faces,  or bonus points when hypertensive health goals are met and frowns/sad faces  or point deductions when goals aren’t met.

10. Normal blood pressure

Patients with normal blood pressure levels  (systolic blood pressure measurement of <120 mmHg) and diastolic blood pressure measurements of <80 mmHg are encouraged to continue leading a healthy lifestyle to maintain their normal blood pressure levels and prevent the development of hypertension. They can have their blood pressure evaluated annually.

\*Prehypertension\*

Prehypertension is classified as a systolic blood pressure measurement of 120-129 mmHg and a diastolic blood pressure measurement of < 80 mmHg. Lifestyle changes should be encouraged to help prevent prehypertension from progressing to hypertension. it is recommended that they should also have their blood pressure levels reassessed in 3-6 months. Healthy lifestyle changes include:

- Following the DASH diet, which is rich in fruits, vegetables, whole grains and low-fat dairy products

- Limiting sodium and alcohol intake

- Exercising on a regular basis

- Maintaining a healthy weight

- Managing stress levels

- Avoid smoking

- Obtain quality sleep

- Monitoring BP at home via home blood pressure monitor

If the above steps are followed patients with prehypertension can see a reduction in their systolic pressure of 4-11 mmHg.

\*Stage 1 Hypertension\*

Stage 1 hypertension is defined as a systolic blood  pressure of 130-139 mmHg and a diastolic blood pressure of 80-89 mmHg. According to the American Heart Association the patient’s 10-year risk for heart disease and stroke should be assessed using the atherosclerotic cardiovascular disease risk calculator (also known as ASCVD) to determine appropriate treatment and follow up.

1. If ASCVD risk is less than 10% follow the lifestyle guidelines for prehypertension and reassess blood pressure in 3-6 months

2. If ASCVD risk is greater than 10%, or if the patient has known heart disease, kidney disease or diabetes mellitus, healthy lifestyle changes should be combined with blood pressure lowering medications ( usually only one drug). One month after starting treatment the patient’s  blood pressure should be reassessed. If it is normal at one month it should be rechecked in 3-6 months.

If the patient’s blood pressure is not normal after one month, the blood pressure medication should be changed to a new one and the patient should be followed by the physician monthly until blood pressure is controlled.

\*Stage 2 Hypertension\*

Stage 2 hypertension is defined as a systolic blood pressure of ≥140 mmHg and a diastolic blood pressure of ≥90 mmHg. A combination of healthy lifestyle changes and blood pressure-lowering medications (two first-line drugs) is recommended in the treatment plan. If the patient’s blood pressure normalizes after one month of treatment, they can be reassessed in 3-6 months. If blood pressure remains elevated after one month of treatment, a different set of medications should be trialed along with monthly follow-ups with their physician until blood pressure is controlled.

\*Stage 3 Hypertension\*

Severe or Stage 3 hypertension is defined as systolic blood pressure > 180 mmHg or diastolic blood pressure > 120 mmHg. If there are symptoms or signs of heart disease, stroke, diabetes mellitus, vision loss or kidney damage they are considered a “hypertensive urgency”. Allow patients with hypertensive urgency to rest and reassess blood pressure in 30 mins.  If blood pressure remains elevated and no treatable secondary causes are found, the treating physician should increase the patient’s chronic antihypertensive drugs to promote long-term blood pressure control with early follow-up in a week or 2.

If the patient’s severely high blood pressure elevation is accompanied by new or worsening symptoms or signs of organ damage described above it is considered a “hypertensive emergency”. Patients who have a hypertensive emergency should be admitted to a hospital for acute/immediate treatment. Blood pressure medication should be given intravenously ( ie in a drip) to reduce blood pressure levels, and the patient’s blood pressure should be continuously monitored until blood pressure control is achieved. If left untreated, the patient’s risk of dying increases significantly and death may occur within 10 months.