**The Rise of Hypertension across America**

**Introduction**

 Hypertension, commonly referred to as high blood pressure, is among the significant public health challenges that the US encounters as it increases the risk of cardiovascular disease. This condition comes when the long-term blood force in the artery walls is high, and is often determined by the blood flow resistance in the arteries and the amount of blood pumped by the heart. When the heart pumps more blood and the arteries are narrower, a person is said to have higher blood pressure. The study by Zanchetti (2016) indicated that people endure hypertension for years without any symptoms. Despite this, the authors stated that the damage that hypertension causes to the heart and the blood vessels can be detected. High blood pressure is manageable, but as Tholl, Forstner and Anlauf (2004) explain, uncontrolled high blood pressure heightens the risk of a patient developing catastrophic health problems such as stroke and heart attack.

 Nearly half of the American adult population is at risk of developing the health problems that are caused by high blood pressure. The new scientific guidelines for detecting hypertension have redefined the condition as more dangerous and developed new measures for identifying hypertension among patients. This paper explores the impact of the new high blood pressure guidelines.

**Purpose of the project**

 The American Heart Association in conjunction with the American College of Cardiology released new diagnostic and management guidelines for hypertension. Going by the new guidelines, it was pronounced that there was need for millions of Americans to lower their blood pressure and that nearly half of the Americans were having high blood pressure. These new guidelines depict the need to improve awareness among the American population on the risk factors and diagnostic assessment of hypertension.

 Therefore, the purpose of this project is to discuss the importance of increasing the awareness of the new blood pressure guidelines among the Americans, improve the accuracy in the assessment of blood pressure, and develop strategies of decreasing the healthcare costs. Research findings by Woolsey, Brown, Ralls, Friedrichs and Stults (2017) indicate that doctors frequently botch blood pressure readings, a factor that exposes people to the risk of differential diagnosis. By accurately assessing blood pressure, one can rule out false positive hypertension. Additionally, the study by Olives, Myerson, Mokdad, Murray and Lim (2013) established that not many Americans are aware of the factors that increase their risk of developing high blood pressure. The identification of the secondary causes and treatment of these secondary causes initially can be beneficial enough for treating Stage I hypertension as opposed to immediately pushing blood pressure pills.

**Background and significance of the problem to healthcare**

 High blood pressure is a condition that develops gradually along with the advancement in age. It is fortunate, according to Carter, Bosworth and Green (2011), that high blood pressure is easily detectable. Despite this, not many people are aware that they grapple with hypertension until the condition leads to the development of catastrophic health conditions such as cardiovascular diseases. Consequently, effective management of the blood pressure has been found to decrease the incidence of cardiovascular diseases, heart failure, heart attacks and stroke.

 As of 2016, the prevalence of hypertension among the adult population in the US was 33%, with the rates slightly higher among men compared to women (Greenland & Peterson, 2017). In the same year, approximately 360,000 deaths accruing from complications caused by high blood pressure were recorded, translating to approximately 1,000 deaths daily. The high mortality rates attributed to hypotension are among the reasons why this condition is christened as a serious public health challenge that the US endures. In the study conducted by Lu et al. (2018), the authors established that 70% of the people having their first attack have high blood pressure, while 80% of the people having their first stroke have high blood pressure. The study also established that 70% of chronic heart failure cases are identifiable with high blood pressure, which also manifests among 60% of people with kidney diseases. These statistics prove the extent to which hypertension increases the risk of physiological malfunction, which are largely catastrophic in nature.

 In 2017, there was a sharp increase in the prevalence rates of hypertension in the US, from 33.33% to 46%, representing a 13% increase in the population diagnosed and identified with hypertension (Greenland & Peterson, 2017). This increase is not linked with changes in lifestyle or intensification of the risk factors of hypertension but to the changes in the guidelines for diagnosing blood pressure. The rise of hypertension has caused more frequent visits to healthcare practitioners’ office, pharmaceuticals, and a rise in over-all healthcare costs. Below is a breakdown of the changes in the hypertension guidelines as summarized by Miller, Glick and Rhodus (2018).

**Previous Blood Pressure Guidelines**<120/80 mmHg = Normal
120-139 / 80 – 89 mmHg = Pre-Hypertension
140 – 159 / 90 – 99 mmHg = Stage I Hypertension
160 – 189 / 100 – 110 mmHg = Stage II Hypertension
**New Blood Pressure Guidelines**<120/80 mmHg = Normal
120 – 129 / 80 mmHg = Elevated Blood Pressure
130 – 139 / 80 – 89 = Stage I Hypertension (Medication Management begins here now)
>140/90 mmHg = Stage II Hypertension

 Many people with hypertension do not exhibit any physical signs and symptoms, a factor that prompted Olives, Myerson, Mokdad, Murray and Lim (2013) to argue this is the reason behind the limited awareness about the need to control blood pressure. There are certain risk factors of hypertension, including age, race, family history, obesity, tobacco use and high sodium intake. In the routine doctor’s appointment, people have their blood pressure recorded.

 The measurement of the blood pressure is among the most common and high-stake tests in healthcare.  According to Kallioinen, Hill, Horswill, Ward and Watson (2017), wrong blood pressure measurements can lead to inaccurate diagnosis. On one hand, people may be subjected to pharmaceutical interventions to manage negative or inexistent hyperextension, while on the other hand; positive hypertension may be overlooked, thus increasing the risk of the cardiovascular diseases linked with hypertension.

 Despite the urgency and high stakes attached to the measurement of blood pressure, it is unfortunate that healthcare providers have not been assessing blood pressure correctly and accurately. Many patients are being pushed into using blood pressure pills without an accurate assessment and identifying the underlying causes. Besides, not many patients understand that having the accurate blood pressure reading is integral in determining the individual safety limits. Healthcare providers have overlooked their role in patient education, which Himmelfarb, Commodore-Mensah and Hill (2016) identified as instrumental in enabling patients to understand the primary and secondary risk factors of hypertension. Though such factors as age, race and family history naturally increase the risk of a person to develop hypertension, there are underlying causes of hypertension that are treatable and manageable. These treatable underlying causes to hypertension include white-coat-syndrome, anxiety, caffeine use, and high sodium intake. Consequently, there is need now more than ever to accurately assess for elevated high blood pressure and treating underlying causes.

**Significance of proper hypertension assessment**

 The assessment of hypertension is often inaccurate due to such factors as inappropriate devices, poor technique and failure to validate or calibrate monitors. Woolsey, Brown, Ralls, Friedrichs and Stults (2017) contend that the accuracy of blood pressure is significant for proper diagnosis, precision in the risk assessment for cardiovascular disease, monitoring the effects of treatment and gauging the necessity and nature of intervention. The accurate blood pressure management requires the use of standardized techniques of measurement, valid interpretation of the readings from properly standardized calibrated equipment.

 The significance of accuracy in assessing blood pressure cannot be overstated. This was the conception by Lu et al. (2018), who asserted the significance of avoiding both false negative and false positive results. Many patients have false elevated blood pressure readings in healthcare office visits. A recent cluster randomized control trial study by Woolsey, Brown, Ralls, Friedrichs and Stults (2017) revealed that comprehensive cardiovascular risk assessment and education programs conducted in community environments were more effective in minimizing the frequency of false blood pressure readings. Therefore, healthcare practitioners will need to have these patients assess their blood pressure in a comfortable environment such as local grocery store, pharmacy, and / or even purchasing an automated blood pressure machine to monitor at home.

 The prevalence of hypertension in the US is linked with the inadequate health literacy on the risk factors that manifest as the treatable secondary causes of hypertension. These limited health awareness has further distorted the accuracy of the assessment, thus the need to assess the possible secondary causes to the hypertensive pressure, and the relevance of reassuring these causes due to the new guidelines. For instance if a patient’s blood pressure is 132/84, it is considered high enough for medication. However, this high blood pressure might be due to the three cups of coffee a day that the patient takes or the high sodium volume in the dietary content of the patient and the high intake of tobacco. In such instances, the healthcare practitioner should assess these secondary factors and propose discontinuation of  caffeine use, reduction of sodium intake and minimization of tobacco as assessment measures prior to the re-assessing the blood pressure.

**Key stakeholders**

 The primary stakeholders in this project include Nurse Practitioners, DNP Prepared Nurse, Patients, Hospital Administrators and the Government. Carter, Bosworth and Green (2011) explain that the nurse practitioners lead the implementation of the hypertension management through detection, referral and monitoring of the assessment methods of blood pressure. The DNP Prepared Nurses are stakeholders in this project as they possess the advanced clinical skills that enable them to systematically assess illnesses and design interventions that will be implemented based on the principles of nursing science. The patients are beneficiaries of the project outcomes, and are integral stakeholders in the project. Hospital administrators are stakeholders who ensure that care is coordinated through performance measurement and quality improvement. They are stakeholders in the project as they determine that the standard of blood pressure assessment is implemented universally by all practitioners in the health facility.

**Relationship of this project to advance nursing practice**

 This project seeks to increase the assessment accuracy of blood pressure. Over the past half decade, Himmelfarb, Commodore-Mensah and Hill (2016) observe that nursing practitioners have played a significant role in improving hypertension control. In advance nursing practice, this project highlights the role that the advance nursing practitioners play in measuring and monitoring blood pressure. This project depicts the need for these professionals to increase their intensity in patient education to explain to the population the risk factors attributed to hypertension. Working in primary care (general practice setting) will support the development of this project as the healthcare professionals in this setting interact with a larger patient population. In this setting, this project can be developed through patient education to increase the health literacy on the need to ensure that the blood pressure readings are accurate. In the primary care setting, this project can be beneficial in the management of diagnostics and medication of blood pressure. The project can be utilized in determining the alternative interventions of managing hypertension caused by primary risk factors and the secondary treatable causes, For instance, through this project, pharmaceutical intervention would be preserved for hypertension patients with the primary untreatable causes, while behavioral and therapeutic interventions are used for managing hypertension causes by secondary treatable factors.

**Project alignment with practice mission and goals**

 The mission of this project is to accurately assess and identify, and treat true hypertension and treating underlying causes. The goal will involve spreading the awareness of the new guidelines; identifying possible secondary causes of hypertension such as caffeine use and high sodium intake. The long-term goal is to be politically active and advocating for the independence of nursing practitioners to help reduce governmental costs. Increasing the awareness and advocating for Nurse Practitioners are the key importance in the reduction of healthcare costs. The State of California limits NP’s by working under the supervision of a Physician. If California were to open the doors for NP’s to manage primary care independently will ultimately reduce healthcare costs.

**Conclusion**

 This paper provides direct evidence that supports the need for accurate assessment of blood pressure. Given the new guidelines of blood pressure assessment, a higher US population percentage is at risk of developing complications related to hypertension. This paper asserts emphasis on the need to strengthen the blood pressure assessment and the assessment of the underlying secondary causes of hypertension. In conclusion, the new scientific guidelines for detecting hypertension have redefined the condition as more dangerous and developed new measures for identifying hypertension among patients.

**References**

Carter, B., Bosworth, H., & Green, B. (2011). The Hypertension Team: The Role of the Pharmacist, Nurse, and Teamwork in Hypertension Therapy. *The Journal Of Clinical Hypertension*, *14*(1), 51-65. DOI: 10.1111/j.1751-7176.2011.00542.x

Greenland, P., & Peterson, E. (2017). The New 2017 ACC/AHA Guidelines “Up the Pressure” on Diagnosis and Treatment of Hypertension. *JAMA*, *318*(21), 2083. DOI: 10.1001/jama.2017.18605

Himmelfarb, C., Commodore-Mensah, Y., & Hill, M. (2016). Expanding the Role of Nurses to Improve Hypertension Care and Control Globally. *Annals Of Global Health*, *82*(2), 243-253. DOI: 10.1016/j.aogh.2016.02.003

Kallioinen, N., Hill, A., Horswill, M., Ward, H., & Watson, M. (2017). Sources of inaccuracy in the measurement of adult patients’ resting blood pressure in clinical settings. *Journal Of Hypertension*, *35*(3), 421-441. DOI: 10.1097/hjh.0000000000001197

Lu, Y., Wang, P., Zhou, T., Lu, J., Spatz, E., & Nasir, K. et al. (2018). Comparison of Prevalence, Awareness, Treatment, and Control of Cardiovascular Risk Factors in China and the United States. *Journal Of The American Heart Association*, *7*(3), e007462. DOI: 10.1161/jaha.117.007462

Miller, C., Glick, M., & Rhodus, N. (2018). 2017 Hypertension guidelines. *The Journal Of The American Dental Association*, *149*(4), 229-231. DOI: 10.1016/j.adaj.2018.01.047

Olives, C., Myerson, R., Mokdad, A., Murray, C., & Lim, S. (2013). Prevalence, Awareness, Treatment, and Control of Hypertension in United States Counties, 2001–2009. *Plos ONE*,*8*(4), e60308. DOI: 10.1371/journal.pone.0060308

Tholl, U., Forstner, K., & Anlauf, M. (2004). Measuring blood pressure: pitfalls and recommendations. *Nephrology Dialysis Transplantation*, *19*(4), 766-770. DOI: 10.1093/ndt/gfg602

Woolsey, S., Brown, B., Ralls, B., Friedrichs, M., & Stults, B. (2017). Diagnosing Hypertension in Primary Care Clinics According to Current Guidelines. *The Journal Of The American Board Of Family Medicine*, *30*(2), 170-177. DOI: 10.3122/jabfm.2017.02.160111

Zanchetti, A. (2016). From risk factors to treatment of hypertension. *Journal Of Hypertension*,*34*(1), 1-2. DOI: 10.1097/hjh.0000000000000796