# A3 Problem Solving

***A tool for Continuous Quality Improvement***

**Project Title: Don't Blow A Gasket-** A Focus on Blood Pressure Measurement

**Team Members/Role:** Cheryl Johnson-Fernandez (QI), Roci (MA), Dr. Vuong(Physician), Promise Funfe (QI), Shree Pandey (QI), Cailey Strazzo (QI)

**Date:** 2/8/21- 2/22/21

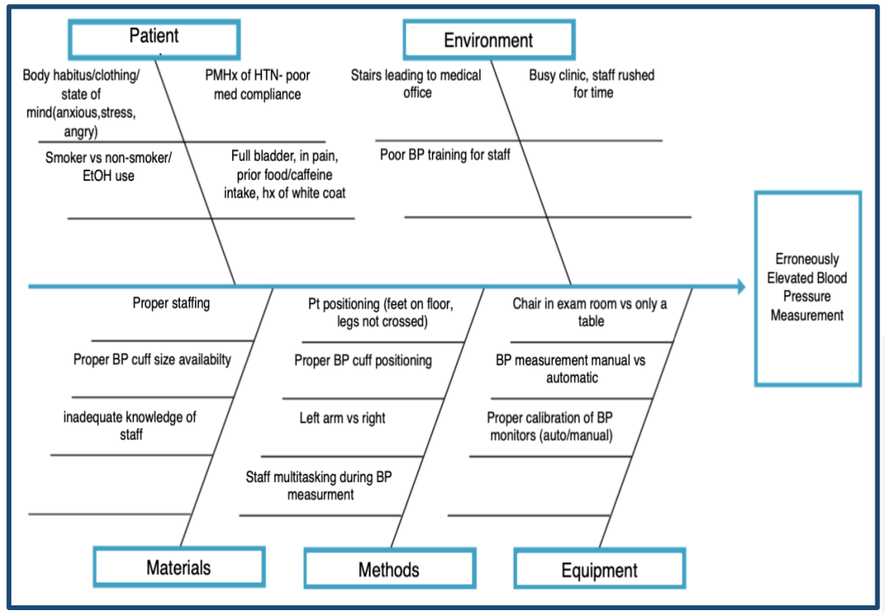
**Define: Problem Statement**
Patient's initial screening Blood Pressure was consistently +10/15 mmhg above rechecked resting pressure, as evidenced during provider interaction and manual blood pressure recheck.

**Goal:** By February 22, 2021, Timberlake Family Practice will decrease erroneous elevated Blood Pressure readings on all patients 35-90 years old by 90%.

**Benefits:** Obtaining accurate BP readings will increase safety for patients and providers in order to correctly identify and treat hypertension

**SMART Objectives:**
**Specific:** To alleviate errors in high BP readings by 90% of patients to prevent mismanagement and/or misdiagnosis of hypertension the MA will room patients and after the patient has been resting in a chair for 5-minutes they will then measure the BP.
**Measurable:** Through BP data collection, evaluation and analysis, we have a goal of decreasing errors in BP measurements by 90%.
**Achievable:** With MA and MD involvement we will be able to achieve accurate BP measurement and create workflow process. **Realistic:** We will collect the measurements of both the 1st and 2nd BP readings for every patient on a specified data document that was formulated specifically for this QI project. We will discuss amongst staff on process workflow in order to achieve the desired outcomes.
**Time Dated:** This short QI project will take place 2/8/21-2/22/21

**Scope:** Timberlake Family Practice cares for a variety of patients with multiple diagnoses. Included in these diagnoses is hypertension. The importance of follow-up visits include monitoring blood pressure to make sure medications are appropriate. We have found that screening pressures done by the medical assistant are consistently elevated. On recheck of the pressure we found a decrease of 10-15 mmHg systolic and diastolic. Through literature review we found that there are certain criteria required when taking a blood pressure; patient should be resting in seated position for 5-10 minutes, feet flat on floor(uncrossed legs), proper BP cuff size, supported backrest, arm at cardiac level, utilizing proper cuff deflation rate(2-3mmHg/sec), BP technician with appropriate hearing and visual capabilities. (Kallioinen, N et al, 2017)




**Process Map:**

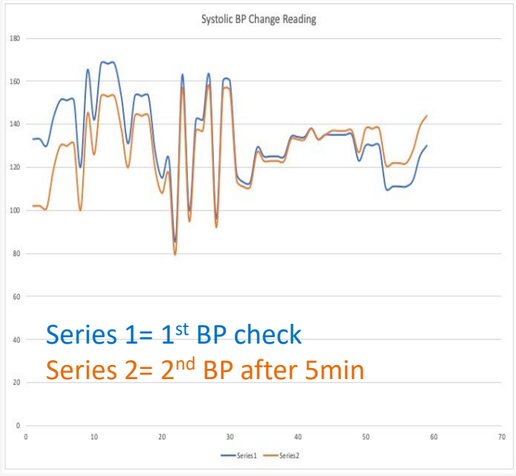
**Prior to study**
MA verifies and rooms patient → cycle BP upon entering room → alert MD patient is ready

**With study**
MA verifies and rooms patient → cycle BP upon entering room → wait 5 minutes, retake BP → alert MD patient is ready

**With study, PDSA**
MA verifies and rooms patient → cycle BP upon entering room → wait 5 minutes, retake BP → verify BP normal for patient → if not, check manually and alert MD → alert MD patient is ready

**Change in practice**
MA verifies and rooms patient → verify and room second patient → return to first patient and check BP → verify BP normal for patient → if not, check manually and alert MD → alert MD patient is ready

**Measure: Baseline Process:** Daily on each patient for two weeks we measured BP at the beginning of the patient arrival and after 5 minutes when the patients are well rested and relaxed with both feet on the floor. We took the BP reading for 2 weeks with some adjustment in parameters of measurement and technique used in the process. During the first week of data collection the Medical Assistant who was taking the BP had some limitations to take the reading as required. But after training, all the reading that was used in the study was consistent and no technical artifacts. We included measurement of BP, BMI, patient age, all the medical conditions that the patient had. This information was in each form that was used in the process on every patient. Within the 60 patients included in the QI project the change in systolic BP was ranging from 30.39% to negative 12.28% from initial reading to after 5 minutes BP reading with slope in graph trending downward.




**Interventions:**
Through shared decision making we realized that patients BP were elevated. It was decided after research and education on proper BP technique measurement we decided to do 2 BP checks, one and five minutes upon patient entry, then a work tool was provided for MA, collected data, analyzed data to show that patients BP was lower after resting for 5 minutes in the room.

**Responsible Person:** MA

**Date:** 2/8/21-2/22/21

**Key Metrics:** Accessed Timberlake Family Practice EMR to collect patients' past medical history and BMI, created a document for the MA to use upon entering the room which was in a fillable checklist format. Upon completion we gathered the data from this document and transferred this to charts and data sheets.

**Improve: Results / Actions**
From our study, we found that most patients BP were found to decrease on 2nd BP check after 5 minutes rest, however, some patients became anxious with recheck which led to increase in BP. It was found that patients with COPD had the most fluctuation in the BP. The mechanism of such fluctuation was in part due to indirect strain on the heart due to lack of proper air flow as the lung is compromised.

Roci MA, and Dr. Vuong both saw the benefit of waiting the 5 minutes after a patient had time to rest in seated position. Dr. Vuong is planning to incorporate this protocol change for the MA process of BP measurement to decrease erroneous elevated BP measurements. Roci MA, did an Inservice for the Timberlake Family Practice Group to present the results from the QI Project.

**Control: Sustainability:**
Patients are now consistently presenting with initial BP readings at baseline or lower than prior to QI project initiation. It was found that proper staff education, manufacturer recommended calibration and maintenance of equipment, as well as follow through on workflow processes were all necessary for sustainability of accurate BP readings.