THIAZIDES AS A MONOTHERAPY/COMBINATION THERAPY IN MANAGEMENT OF ESSENTIAL HYPERTENSION
9TH ANNUAL DNP SYMPOSIUM
MAY 12, 2021

COHORT IX

Chinonye O.Onuchukwu-Azuonye, MSN, APRN, FNP-C
- Chair: Hector R. Morales, DNP, APRN, PMHCNS-BC
- Co-Chair: Laura Rodriguez, DNP, APRN, MCH-CNS

UTEP | 500 W. UNIVERSITY AVE. EL PASO, TEXAS 79968
Thiazides as a Monotherapy/Combination Therapy in Management of Essential Hypertension

Chinonye Onuchukwu-Azuonye MSN, APRN, FNP-C
University Of Texas El Paso
NURS 6893
April 17, 2021
Abstract

**Background:** Essential hypertension is a chronic disease that can lead to stroke or death if uncontrolled. It is both a global problem in the U.S. and the world.

**Problem:** A 10-day reflective practice revealed that the current practice of prescribing amlodipine of 2.5mg to 10mg oral tablet daily or Losartan 25mg to 100mg oral tablet daily was ineffective in managing essential hypertension in both newly diagnosed and established patients. The review of the literature guided the selection of an evidence-based practice utilized in implementing this project. The Academic Center for Evidence-Based Practice (ACE) Star Model of Knowledge Transformation (Stevens, 2013) was used to transfer the acquired knowledge into practice.

**Design:** For this quality improvement project, low doses of thiazides were prescribed as a monotherapy or combination therapy for newly diagnosed or established patients with essential hypertension utilizing the PDSA cycle.

**Setting:** This quality improvement project was implemented in a small primary care clinic with male and female adult patients aged 44-65 years old.

**Intervention:** Chlorthalidone 12.5mg tablet to 25mg oral tablet daily or Hydrochlorothiazide 12.5mg to 25mg tablet oral daily was prescribed for newly diagnosed patients or added as an adjunct therapy to established patients with uncontrolled blood pressure. A PDSA cycle guided the implementation of the project for 4 weeks. A blood pressure log was given to the patient with follow-up calls to ensure consistency.

**Outcome:** The follow-up assessment showed a reduction in the Systolic BP <140 mmHg and Diastolic <90 mmHg. The project concluded that thiazides are effective as a monotherapy or combination therapy to manage essential hypertension.
**Significance:** The use of a quality improvement intervention has become an integral part of nursing, especially for doctoral-prepared Advanced Practice Nurses (APRN). It enables the DNP-prepared APRN to identify problems in a clinical practice setting with the knowledge to intervene or solve the problem using quality improvement projects.

*Keywords:* essential hypertension, thiazides, ACE star model of knowledge transformation, PDSA cycle
# Table of Contents

Introduction and Background ................................................................. 6

Problem Description ................................................................................. 7

Available Knowledge .............................................................................. 7

Rationale .................................................................................................. 8

The ACE Star Model of Knowledge Transformation ................................. 9

Specific Aims ......................................................................................... 10

Methods .................................................................................................. 11

Interventions ......................................................................................... 11

Measures ................................................................................................ 14

Ethical Considerations ........................................................................... 14

Results .................................................................................................... 15

Patient 1 ............................................................................................... 15

Patient 2 ............................................................................................... 15

Patient 3 ............................................................................................... 16

Patient 4 ............................................................................................... 16

Patient 5 ............................................................................................... 16

Discussion ............................................................................................ 16

Summary ............................................................................................... 16

Analysis ................................................................................................. 17
Limitations ................................................................................................. 17

Conclusions ............................................................................................... 17

Implications for Practice ........................................................................... 17

Funding ........................................................................................................ 18

References ................................................................................................... 20
Thiazides as a Monotherapy/Combination Therapy in Management of Essential Hypertension

Introduction and Background

Essential hypertension is a chronic disease encountered in clinical settings. It is often described as the silent killer and could lead to many risk factors such as stroke, cardiovascular disease, kidney failure, and death when not controlled or managed. Unger et al. (2020) discussed that elevated blood pressure had remained a leading cause of death globally, accounting for about 10.4 million deaths per year (p. 2). Although essential hypertension can be easily diagnosed and managed early, studies have shown that it affects almost 1 in 3 individuals in the United States (Kaboli et al., 2018). Essential hypertension, also known as primary hypertension, occurs when there is a rise in an adult’s blood pressure (BP) with no other disease condition. This is a major health problem that can be managed with the right drug of choice. There are evidence-based clinical practice guidelines used by clinicians in the management of essential hypertension. Hypertension, although a global health problem, tends to be frequently mismanaged in patients. Also, patients are faced with making frequent visits or calls to the clinic due to ineffective control of their blood pressure. The problem of noncompliance to medication originates when patients are prescribed multiple antihypertensive medications and they are not getting the outcome or result of the therapy. The decision to choose the best possible antihypertensive medication that is affordable and effective for the patient can be quite challenging. As a doctoral prepared advanced practice nurse, identifying and solving a problem with an evidence-based literature is the key in promoting quality health outcomes. For this quality improvement project, the aim was to improve the management of essential hypertension
with thiazides as a monotherapy or combination therapy. Uncontrolled essential hypertension is a global health problem that can be easily overlooked, mismanaged, or undiagnosed.

**Problem Description**

This problem was identified during a 10-day reflective practice review in the clinic. The review identified essential hypertension as a clinical issue that needs to be addressed. During the 10-day review, the usual practice of prescribing Amlodipine 2.5mg up to 10mg tablet 1 tablet PO daily or Losartan 25mg up to 100mg tablet 1 tablet PO daily was ineffective. The patients were seen more often than their routine scheduled visits with complaints of having uncontrolled blood pressure. Reviewing the Electronic Health Record (EHR) showed that most of the patients diagnosed with essential hypertension had systolic >140 mmHg and diastolic > 90mmHg. There is absolutely a gap in knowledge in management of these patients. However, to close this gap, an effective antihypertensive therapy was found based on current evidence available to lower blood pressure at a systolic <140mmHg and diastolic < 90mmHg.

**Available Knowledge**

Kaboli et al. (2018) estimated that at least half of patients with hypertension in the nation have uncontrolled blood pressure (p. 2). Studies have revealed that there are many strategies in place to help improve the treatment of hypertension. Following these guidelines and adopting the best suitable drug therapy will reduce the risks associated with uncontrolled blood pressure. According to Wright and Musini (2018), the decision to choose a drug or medication to manage elevated blood pressure needs to be made based on the “best available evidence on reduction of the outcomes that are important to the patient” (p. 10). There is need to search for an evidenced-based literature showing an antihypertensive therapy that can effectively produce the desired outcome of reducing the patient’s blood pressure. These outcomes are essential to both the
clinician and the patients, knowing that uncontrolled essential hypertension can be very
detrimental to health. For example, it can lead to stroke, cardiovascular disease, and death. Also,
when a patients’ blood pressure is uncontrolled there will be a decrease in satisfaction, increased
risks associated with hypertension, cost problems, and noncompliance. Uncontrolled essential
hypertension leads to stroke, cardiovascular disease, and death. Patients are often educated on
prevention and promotion strategies that can help in controlling their blood pressures. Such
strategies include education on diet, stress, sedentary life, weight management, and correct
monitoring of blood pressure. Different studies and guidelines determine or discuss the best
effective drug therapy to manage essential hypertension. The evidence-based guidelines such as
the report by Joint National Committee (JNC) on Prevention, Detection, Evaluation, and
Treatment of High Blood Pressure (Arnett, et al., 2019) and the 2020 International Society of
Hypertension Global Hypertension Practice Guidelines (Unger, et al., 2020) recommended the
use of thiazides as a monotherapy or combination therapy in the management of essential
hypertension.

**Rationale**

The methodological framework utilized in planning this project was the model for
improvement (MFI). According to Harris, Roussel, Dearman, and Thomas (2018), the “model
for improvement provides a strong foundation and plan for any improvement effort or
intervention” (p. 162). Three questions were derived from this model as a guide for
implementation. The questions were: (a) What is one trying to accomplish? (b) How will I know
if there is an improvement with the change? (c) What changes do I need to make to see the
desired result? The PDSA (Plan-Do-Study-Act) cycle (Connelly, 2021) was used to plan and
evaluate the intervention. According to Connelly (2021), the PDSA model “offers a structured
approach to experimental learning and to change evaluation” (p. 61). She further recommended that the process should be described clearly on the use of the model in implementing the quality improvement project.

![Model for Improvement](image)

*Figure 1. Model for improvement (IHI, 2021).*

**The ACE Star Model of Knowledge Transformation**

The translation of EBP into clinical practice is essential to ensure quality health care outcomes and patient safety. White, Dudley-Brown, and Terhaar (2021) explained that “EBP in healthcare today uses a formal process with specific criteria to appraise emerging evidence and methods for incorporating that evidence to inform and change practice” (p. 4). Therefore, the Academic Center for Evidence-Based Practice (ACE) star model of knowledge transformation framework was used to effect the change at the clinic. The ACE Star model of knowledge transformation is a framework developed by Kathleen Stevens to ensure the translation of evidence-based knowledge into practice (White et al., 2021, p. 18). The processes of adopting this model comprises of five steps. In step 1 (knowledge discovery), the gap in practice propelled
the discovery of thiazides in the management of essential hypertension. Step 2 (evidence summary) entailed the process of retrieving the EBP through literature reviews. In step 3 (translation into practice), the knowledge obtained was introduced into the clinical practice. In step 4 (integration into practice), the intervention was implemented. In the final step (evaluation), the outcome of the intervention was evaluated to support the aim and purpose of the project (White et. al., 2021, p. 4).

![Figure 2: The ACE Star Model of Knowledge Transformation](stevens_2013_p4)

**Specific Aims**

This quality improvement project was conducted based on the clinic’s identified problem to provide a better therapeutic strategy in managing essential hypertension. As a clinician, I sought the best evidence-based practice available reflecting on many questions. The question was, “What is the drug of choice or the best line of therapy to use in ensuring that the patient maintains a systolic of <140 mmHg and diastolic <90 mmHg?” Identifying the gap in the management of essential hypertension became the focus of this project. The clinical problem of essential hypertension can affect any adult despite their economic status. This project aimed to ensure that patients maintain a BP of systolic <140 mmHg and diastolic <90 mmHg, reduce risks associated with uncontrolled BP, decrease cost for the patient, decrease infrequent office visits, and increase in quality of life. Additionally, the clinic will have better patient care outcomes,
increased patient-provider trust, and an opportunity for more new patients. If any of these goals are not met, both patients and clinicians are dissatisfied.

**Methods**

The clinical practice problem was identified in a primary care practice setting with the initiation of the project proceeded at Chinyere Awa MD Family Practice, a privately owned primary care clinic located in southwest Houston, Texas. The staff includes an office manager, a medical assistant, and a nurse practitioner student. The clinic serves mainly adults with some pediatric patients. Most of the patients are from middle-/low-income status and depend on transportation to come to the clinic. The population is underserved and consists of insured and uninsured patients. The people considered for this project were male and female adult patients aged 18 to 99. The practice setting strives to offer family care, laboratory, women’s health, disease management, and health education.

**Interventions**

Over 10 days, all patients were seen and treated for their different chief complaints in the clinic. Patients’ data were recorded and compared in the EHR. The review showed frequent occurrences of patients coming in with complaints of uncontrolled blood pressure more than any other disease condition. Patients with essential hypertension were given amlodipine from 2.5 up to 10mg tab PO daily or losartan 25mg to 100mg tablet PO daily. Also, the patients were educated on dietary modifications, exercise, and weight management. My current practice was ineffective, as patients were frequently seen with complaints, fear, and frustrations of not controlling their blood pressure. The ranges were systolic of >140 mmHg and diastolic of >90 mmHg at home and in the clinic. The question became, “What other possible therapeutic strategy
can one use to maintain a patient’s blood pressure at a systolic <140 mmHg and diastolic <90 mmHg?”

This problem led to developing a PICOT question to help determine the best intervention to effect the change. A literature review was conducted to determine the best possible intervention appropriate for the PICOT question. Different searches were conducted through various search engines such as Cochrane review, PubMed, CINAHL, OVID full text, and Google Scholar. The mesh words were hypertension, essential hypertension, best drug treatment of hypertension, drug therapy, and antihypertensive medications. In the article review, the goal was to choose the three highest levels that support the intervention. The first literature was a level 12 Cochrane systematic review of randomized control trials from 1947 up to November 2017 to determine the best choice of drug for hypertension (Wright & Musini, 2018). The study was on comparing six different antihypertensive drug classes with “a placebo or no treatment in adult patients with blood pressure over 140/90 mmHg” (Wright & Musini, 2018, p.1). The outcome of the study revealed that first-line low-dose thiazides reduced the patient’s systolic and diastolic blood pressure. The second literature, a level 9 12-week double-blind, randomized control trial, assessed the efficacy of the use of indapamide sustained release/ amlodipine single-pill combination in mild to moderate hypertensive (Dominiczak, de Chamvallins, Brzozowska-Villatte, & Asmar, 2019). The study confirmed a reduction of blood pressure <140/90 mmHg. The third literature, a level 9, was a randomized control trial. The research was conducted to depict if a low dose triple pressure therapy compared to usual care for adults with hypertension needing monotherapy or combination therapy would be effective (Webster et al., 2018). The literature supports the achievement of the target goal of <140 mmHg and <90 mmHg. Choosing
a level 12 literature was a guide in answering the intervention question of the PICOT question to address the clinical site needs. The PICOT question that guided this project was:

P: Newly diagnosed and established adult patients with essential hypertension
I: Prescribed thiazides as a monotherapy/combination therapy (proven by EBP literature)
C: Amlodipine 2.5mg to 10mg 1 tab PO daily or Losartan 25 to 100mg tab PO daily
O: Systolic BP <140 mmHg and Diastolic BP <90 mmHg
T: 30 days (4 weeks)

This led to developing a quality improvement proposal project approved by my worksite supervisor, DNP chair, and co-chair at the School of Nursing in the University of Texas at El Paso (UTEP). An Institutional Review Board (IRB) training and application were submitted and approved by the University IRB. The procurement of a project proposal, work letter, and an IRB permitted the implementation of the project. The following outlines were utilized in implementing this project from 02/08/21:

Week 1

1. Met and explained project to office staff, reinforced teaching on Office BP measurements to Medical Assistants.
2. Inclusion Criteria:
   a. Newly diagnosed patients with essential hypertension
   b. Patients with uncontrolled essential hypertension already on antihypertensive medication to receive thiazide as a combination therapy
3. Patient educated on blood pressure management
4. Followed up on patients with Blood pressure (BP) logs
The above steps were repeated for 4 weeks with the exclusion of step 1.

**Measures**

The Plan-Do-Study-Act (PDSA) cycle was initiated with each patient intervention to determine the outcome of the intervention. The planning phase consisted of identifying of the problem, explaining the project to the work supervisor, and educating and instructing the office manager, NP student, and medical assistant on the quality improvement project. In the second phase, the DO, patients were prescribed thiazide as a combination therapy. In the third phase of the study, the patients were followed up with a BP log and in the office to record data in the EHR. The last phase, Act, which determined the outcome of the intervention as successful. Each patient was involved in only one PDSA cycle, proving the success of the intervention.

The blood pressure log used in this project was from the American Heart Association (AHA). The log contains instructions for patients on how to measure their blood pressure with the frequency.

Also, the use of SQUIRE (Standards for Quality Improvement Reporting Excellence) provided a guideline in writing this quality improvement project paper. According to Goodman, et al. (2016), “the purpose of this guideline is to assist authors in writing clearly, precisely and completely about systematic efforts to improve the quality, safety, and value of healthcare services” (p. 1). Also, “the SQUIRE 2.0 explicitly emphasizes the importance of articulating a rationale for proposed changes and describing the role of context, allowing authors and readers to determine the generalizability of the Quality Improvement approach to other settings” (McQuillian & Wong., 2016, p. 771).

**Ethical Considerations**
This quality improvement project took place in a family practice clinical setting. The inclusion criteria were for newly diagnosed patients with essential hypertension and established patients diagnosed with essential hypertension already on antihypertensive medication who can receive thiazides as an adjunct. Patients’ data were recorded in a secured EHR. There was no audio or video record of this project. Also, since medications have side effects, patients were instructed on the medication’s side effects or adverse effects. Patients were given educational material on the medication and the expected side effects with instruction to discontinue medication if any side effects or adverse effects are experienced. No patient identifiers were released to anyone except the project manager. The UTEP IRB deemed this study was not a research project before proceeding with the project.

**Results**

During the project, Chlorthalidone 12.5mg tablet was prescribed as a combination therapy to one patient, while Hydrochlorothiazide 12.5mg was prescribed as combination therapy to four patients with uncontrolled essential hypertension.

**Patient 1**

Currently, on Losartan 50mg tab PO daily, this patient is 60-year-old African American female and was first seen on 2/23/21 with a complaint of systolic BP >140 mmHg and diastolic >90 mmHg. Office BP was 145/85. Chlorthalidone 12.5mg tablet daily was added as a combination with the Losartan decreased to 25mg tablet. The patient was given a BP log to keep at home with a follow-up visit in the office on 3/10/21. The BP log showed decreased BP of systolic < 140 mmHg and diastolic < 90 mmHg. The office BP was 125/77, and the patient reported no side effects meeting the intended outcome.

**Patient 2**
This patient, a 52-year-old Hispanic male, was seen on 2/26/21 with a BP of 160/90 but was placed on Losartan 50mg/HCTZ 12.5mg tablet PO daily on 3/5/21 after confirming the diagnosis. The patient’s blood pressure log showed a BP of 129/88 on 3/15/21 in the evening, indicating a reduction in systolic < 140 mmHg and diastolic < 90 mmHg. The patient was scheduled to be followed up on 3/19/21.

**Patient 3**

This patient, a 55-year-old Hispanic male, was seen on 3/1/21 and placed on Lisinopril 20mg/HCTZ 12.5mg tablet PO daily to be followed up in 2 weeks. The patient never returned to the clinic despite frequent calls until the end of the project. No outcome was recorded.

**Patient 4**

This patient, a 44-year-old African American male, was seen on 3/15/21 with a BP of 152/106 and placed on Losartan 50mg/HCTZ 12.5mg to be followed up in 2 weeks.

**Patient 5**

This patient, 68-year-old Asian female, was seen on 3/15/21 with a BP of 194/105 and placed on Losartan 50mg/HCTZ 12.5mg 1 tablet PO daily to be followed up in 2 weeks.

**Discussion**

**Summary**

The project was extended by 1 week due to inclement weather in the week of 2/15/21 – 2/19/21 affecting the closure of the clinic for loss of power. This project was supposed to end on 3/6/21, but it was concluded on 3/15/21. Also, the project outcome was not obtained from two patients. The two patients seen on 3/15/21 were to be followed up on 3/30/21. One patient never returned to the clinic. Another challenge encountered during this project was the inability to
prescribe thiazide as a monotherapy for any patient. However, the outcome of the two patients successfully supports the result of this project.

**Analysis**

Five patients met the criteria in this project. There were two females and three males with the age range of 44 to 68 years old. Two were African American male and female, one was an Asian female, and two were Hispanic males. No White was included in this study. Each patient had a previous diagnosis of elevated blood pressure but uncontrolled. The outcome of patient 1 and 2 confirms that thiazides can be used as a combination therapy in patients with essential hypertension to ensure a systolic of <140 mmHg and diastolic of <90 mmHg. The outcome of the projects supports the evidence-based practice literature utilized in this quality improvement project.

**Limitations**

The limitations of this project were the number of patients seen due to the clinic being a small private clinic in an underserved population. The setback on the project timeline due to inclement weather was another limitation. However, it was only limited to patients diagnosed with essential hypertension with no complicated underlying condition.

**Conclusions**

Essential hypertension, when not controlled or managed, can be detrimental to an individual’s health, leading to risks such as stroke, decreased quality of life, cardiovascular disease, and death. The reduction of the systolic <140 mmHg and diastolic < 90 mmHg in these two patients seen during this project supports the intervention for the use of thiazides as a combination therapy in the management of essential hypertension.

**Implications for Practice**
The doctoral-prepared nurse strives to promote a better patient health outcome and safety by adopting the eight Doctor of Nursing Practice (DNP) essentials. The knowledge acquired enables the doctoral-prepared clinical nurse to carry out a quality improvement project based on the clinical needs’ assessment identified. The impact of this quality improvement project on the patients includes:

- Systolic BP <140 mmHg and diastolic <90 mmHg
- Reduced risk factors associated with uncontrolled blood pressure
- Decreased infrequent office visits
- Cost-effective
- Increased quality of life

The impact on the clinical site includes:

- Better patient care outcome
- Increase in patient-provider trust
- Patient satisfaction
- Fewer return visit
- Opportunity for more new patients
- Cost-effective

Therefore, this quality improvement project aimed to support the evidence-based practice of prescribing thiazides as a combination therapy in managing patients with essential hypertension in any clinical setting.

**Funding**
There was no conflict of interest throughout this project. However, the Paso del Norte Health Foundation Graduate Fellows Program awarded $3,100 to support and aid this scholarly DNP project.
References

https://www.heart.org/-/media/files/health-topics/high-blood-pressure/my-blood-pressure-log.pdf


https://doi.org/10.1136/bmjqs-2015-004480


THE UNIVERSITY OF TEXAS AT EL PASO

DNP SYMPOSIUM
Thiazides as a Monotherapy/Combination Therapy in Management of Essential Hypertension

Chinonye Onuchukwu-Azuonye, MSN, APRN, FNP-C
DNP Program
05/12/2021
10 Days Reflective Practice
# Essential Hypertension

<table>
<thead>
<tr>
<th>Stages of Hypertension</th>
<th>CATEGORY</th>
<th>SYSTOLIC</th>
<th>DIASTOLIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>100-120</td>
<td>And 60-80</td>
<td></td>
</tr>
<tr>
<td>Pre hypertension</td>
<td>120-140</td>
<td>Or 81-89</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>High blood pressure /HTN</th>
<th>Stage 1 HTN</th>
<th>Or 90-110</th>
<th>Stage 2 HTN</th>
<th>Or &gt;110[18]</th>
</tr>
</thead>
</table>

[18]:

*This Photo* by Unknown Author is licensed under [CC BY](https://creativecommons.org/licenses/by/4.0/).
Literature Review

Cochrane Review – Level 12

• Thiazides as first line of therapy
• Outcome of study- Reduction of Systolic BP <140 mm hg and Diastolic < 90 mm hg

Wright, Musini, & Gill. (2018)
Literature Review

Randomized Control Trial - Level 9

• Thiazides as a combination therapy
• Outcome of study - Reduction of Systolic <140mm hg and Diastolic < 90 mm hg

Webster, et al. (2018)
Double Blind RCT Trial – Level 9
• Thiazides as a combination therapy
• Outcome of study- Reduction of Systolic BP <140 mm hg and Diastolic < 90 mm hg

Dominiczak, et al. (2019)
Thiazides

Thiazide diuretics

Increase sodium and water excretion

Short-term effects

- Decrease blood volume
- Decrease cardiac output

Long-term effects

- Decrease sodium content of smooth muscle cells
- Decrease muscle sensitivity to vasopressors
- Decrease peripheral vascular resistance

Decrease blood pressure

https://usmlematerials.net/diuretics-drugs-in-treatment-hypertension/
PICOT

• P: Newly diagnosed and established adult patients with essential hypertension
• I: Prescribed thiazides as a monotherapy/combination therapy (proven by EBP literature)
• C: Amlodipine 2.5mg to 10mg 1 tab PO daily or Losartan 25 to 100mg tab PO daily
• O: Systolic BP <140 mmHg and Diastolic BP <90 mmHg
• T: 30 days (4 weeks)
Project Design

Proposal and Work letter

- Institutional Review Board (IRB)
- Work setting and Resources
Theoretical Framework

The Academic Center for Evidenced-Based Practice (ACE) Star Model

Stevens, 2013
Quality Improvement Model

PDSA Cycle

- **Act**
  - What changes are to be made?
  - Next cycle?

- **Plan**
  - Objective.
  - Questions and predictions.
  - Plan to carry out the cycle (who, what, where, when).

- **Study**
  - Complete the data analysis.
  - Compare data to predictions.
  - Summarize what was learned

- **Do**
  - Carry out the plan.
  - Document problem and unexpected observations.
  - Begin data analysis.

This Photo by Unknown Author is licensed under CC BY
Quality Improvement Model (PDSA Cycle)

- BP < 140/90 mm Hg
- Goal met

- Patient ID
- Awareness

- BP log
- Follow Up

- Thiazide Prescribed
# Blood Pressure Log

![Blood Pressure Log](https://www.heart.org/-/media/files/health-topics/high-blood-pressure/my-blood-pressure-log.pdf)

**My Blood Pressure Log**

- **Name:**

- **My Blood Pressure Goal:** ___ mm Hg

**Instructions:**

- Measure your blood pressure twice a day—morning and late afternoon—at the same times everyday.
- For best results, sit comfortably with both feet on the floor for at least two minutes before taking a measurement.
- When you measure your blood pressure, rest your arm on a table so the blood pressure cuff is at about the same height as your heart.
- Record your blood pressure on this sheet and show it to your doctor at every visit.

<table>
<thead>
<tr>
<th>DATE</th>
<th>AM</th>
<th>PM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DATE</th>
<th>AM</th>
<th>PM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Copyright 2020 American Heart Association, Inc. All rights reserved. Unauthorized duplication prohibited. 20201462 2018**
Findings and Outcomes

- Patient 1
- Patient 2
- Patient 3
- Patient 4
- Patient 5
Evaluation & Conclusions
Questions
References


https://usmlematerials.net/diuretics-drugs-in-treatment-hypertension/
Essential hypertension is a chronic disease that can lead to stroke or death if uncontrolled. It is both a global problem in the U.S. and the world.

**BACKGROUND**

Essential hypertension is a chronic disease that can lead to stroke or death if uncontrolled. It is both a global problem in the U.S. and the world.

**PROBLEM**

A 10-day reflective practice revealed that the current practice of prescribing amiodopine of 2.5mg to 10mg oral tablet daily or Losartan 25mg to 100mg oral tablet daily was ineffective in managing essential hypertension in both newly diagnosed and established patients. The review of the literature guided the selection of an evidence-based practice utilized in implementing this project. The Academic Center for Evidence-Based Practice (ACE) Star Model of Knowledge Transformation helped translate the research into practice.

**PICOT QUESTION**

**P:** Newly diagnosed and established adult patients with essential hypertension  
**I:** Prescribed thiazides as a monotherapy/combination therapy proven by EBIP Literature  
**C:** Amiodopine 2.5mg to 10mg 1 tab PO daily or Losartan 25 to 100mg tab PO daily  
**O:** Systolic BP <140 mm Hg and Diastolic <90 mmHg  
**T:** 30 days (4 weeks)

**SETTING:**

This quality improvement project was implemented in a small primary care clinic with male and female adult patients aged 44-65 years old.

**FRAMEWORK (ACE STAR MODEL)**

**FRAMEWORK**

This quality improvement project was implemented in a small primary care clinic with male and female adult patients aged 44-65 years old.

**INTERVENTION**

Chlorthalidone 12.5mg tablet to 25mg oral tablet daily or Hydrochlorothiazide 12.5mg to 25mg tablet oral daily was prescribed for newly diagnosed patients or added as an adjunct therapy to established patients with uncontrolled blood pressure. A PDSA cycle guided the implementation of the project for 4 weeks. A blood pressure log was given to the patient with follow-up calls to ensure consistency.

**DESIGN**

For this quality improvement project, low doses of thiazides were prescribed as a monotherapy or combination therapy for newly diagnosed or established patients with essential hypertension utilizing the PDSA cycle.

**OUTCOME**

The follow-up assessment showed a reduction in the Systolic BP <140 mmHg and Diastolic <90 mmHg. The project concluded that thiazides are effective as a monotherapy or combination therapy to manage essential hypertension.

**SIGNIFICANCE**

The use of a quality improvement intervention has become an integral part of nursing, especially for doctoral-prepared Advanced Practice Nurses (APRN). It enables the DNP-prepared APRN to identify problems in a clinical practice setting with the knowledge to intervene or solve the problem using quality improvement projects.

**IMPLICATION FOR PRACTICE**

**PATIENTS**

- Systolic BP <140 mm Hg and Diastolic <90 mmHg  
- Reduced risk factors associated with uncontrolled blood pressure  
- Decreased in frequent office visits  
- Cost-effective  
- Increased quality of life

**CLINICAL SETTING**

- Better Patient care outcome  
- Increase in patient-provider trust  
- Patient satisfaction  
- Fewer return visit  
- Opportunity for more new patients  
- Cost effective

**REFERENCES**


