

### Objectives

- The goal of this project is to provide a tool or useful resource to the pediatric minority community, who frequent ECU Physicians for their healthcare needs.
- We hope to increase the effectiveness and discussion of lifestyle behaviors at each clinical encounter with our patients who are diagnosed with hypertension.
- It is our goal to improve the percentage of blood pressure normalization within our clinic from 38% to greater than 50% over a 6-month timeframe.
- We predict that compliance with lifestyle modifications and pharmacological interventions may be heightened following culturally competent interventions as well as lead to stronger patient relations, rapport, and trust following a shared decision-making model.

### INTRODUCTION

- Hypertension is one of the top five chronic diseases in children and adolescents, occurring in 2% to 5% of all pediatric patients. Hypertension in childhood is a major risk factor for hypertension in adulthood.
- Pediatric hypertension has been found to be more prevalent in non-hispanic African-American patients than that compared to Caucasian patients. This is especially witnessed in areas/communities of low socioeconomic status and medically-underserved communities.
- A model for preventive medicine resources utilizing diabetes educators is a concept successfully implemented in the care of diabetic patients throughout this country.
- This involves “a collaborative process through which people with or at risk for diabetes gain the knowledge and skills needed to modify their behavior and successfully self-manage the disease and its related conditions.”
- This study aims to model this concept of identifying hypertension educators/counselors to both improve patient compliance to treatment as well as help address lifestyle factors/behaviors that affect the management of this disease.

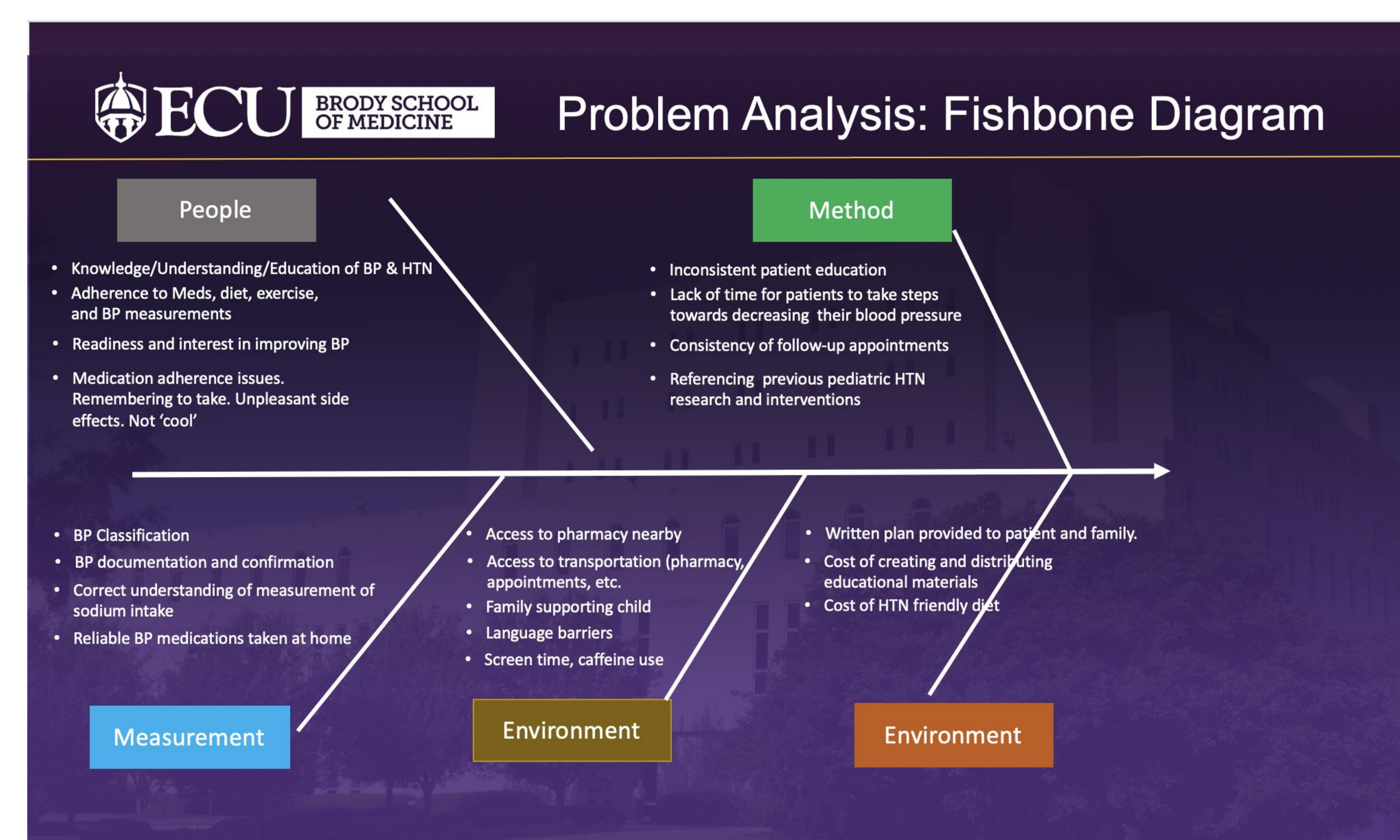
### MATERIALS & METHODS

- This study involves assessing the overall effectiveness of implementing hypertension educators/resources within the ECU Pediatric Nephrology clinic.
- The first component involves the development of additional counseling and hand-outs provided by clinical staff during new and follow-up chronic hypertension visits.
- Additional information on lifestyle modifications involving the incorporation of the DASH diet were included in the after-summary visit as well as displayed in clinic rooms for patients during these visits.
- The next component will involve obtaining curricular information that will be used to train our proposed hypertension educator to address the full scoop of hypertension management.
- Our educators within our program will be specially trained in working with individuals from diverse backgrounds, specifically those from underserved, low-resourced communities.

### RESULTS

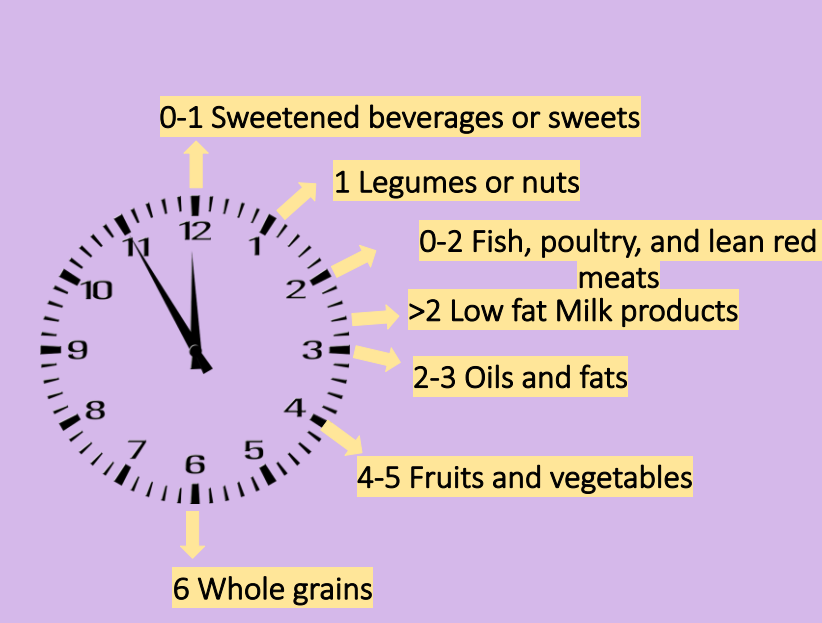
**Phase 1: Incorporation of additional culturally-competent health-literature within the clinic that addresses one of the major risk factors of pediatric hypertension: Low-salt intake through DASH diet materials presented in clinic rooms as well as in after-summary visits.**

- Based on data from ICD code: Chronic Hypertension; Pediatrics we have been able to see an decrease in overall BP over a 5-month time period, however less than <10% of patients achieved BP normalization.




### DASH Around The Clock!

Lifestyle interventions are recommended as the first line treatment to lower blood pressure.

<p><b>DASH Diet:</b></p> <p>Dietary Approaches to Stop Hypertension</p> <p>Limited in sugar, sweets, and sodium, the diet emphasizes consumption of fruits, vegetables, low-fat milk products, whole grains, fish, poultry, nuts, and lean red meats.</p>	<p><b>DASH Diet Servings Per Day</b></p> <p>No more than a dash of salt! &lt;2300mg Sodium Per Day</p> 
<p><b>Add A DASH Of:</b></p> <ul style="list-style-type: none"> <li>Mental health</li> <li>Stress relief</li> <li>Counseling</li> <li>Goal setting</li> <li>Plan for food/exercise</li> <li>Family/friends support</li> </ul>	<p><b>Exercise DASH!</b></p> <p>&gt;1hr of physical activity a day</p> <p>Any type of exercise—aerobic training, resistance training, or combined training—is beneficial to lower blood pressure.</p> <ul style="list-style-type: none"> <li>Dancing to music</li> <li>Hike, walk, jog, or run</li> <li>Take the stairs</li> <li>Weightlifting</li> <li>Swimming</li> <li>Ride your bike or skateboard</li> <li>Walk around while talking to friends/family</li> <li>Play a sport: basketball, soccer, tennis, volleyball</li> <li>Keep fidgeting: bouncing your knee when sitting</li> <li>Chores: cleaning, cutting the grass, etc</li> <li>Active video games: Dance Dance Revolution</li> </ul>

### Hipertensión Arterial!

Intervenciones de estilo de vida que son recomendadas como la primera línea de tratamientos para bajar la presión sanguínea.

<p><b>Dieta de DASH:</b></p> <p>Enfoques Dietéticos para Hipertensión Arterial</p> <p>Limitado en azúcares, dulces, y sodio, la dieta enfatiza el consumo de frutas, vegetales, productos de leche con baja gordura, granos enteros, pescado, aves, nueces, y carnes rojas magras</p>	<p><b>Porciones de la Dieta de DASH</b></p> <p>No mas que una pizca de sal! &lt;2300mg de Sodio Cada Dia</p> 
<p><b>Agrega un DASH de:</b></p> <ul style="list-style-type: none"> <li>Salud Mental</li> <li>Relajo de Estrés</li> <li>Acosamiento</li> <li>Haz Metas</li> <li>Planea la Comida/ Ejercicio</li> <li>Apoyo Familiar/de Amigos</li> </ul>	<p><b>DASH de Ejercicio!</b></p> <p>&gt;1hr de actividad física todos los días</p> <p>Cualquier tipo de ejercicio—entrenamiento aeróbico, entrenamiento de resistencia, o entrenamiento combinado—es de beneficio para bajar la presión de la sangre.</p> <ul style="list-style-type: none"> <li>Bailar con música</li> <li>Caminar mientras hablas con amigos/familia</li> <li>Jugar un deporte: béisbol, fútbol, tenis, o voleibol</li> <li>Mantente en movimiento: mueve tu rodilla mientras estás sentado</li> <li>Tareas: limpiar, cortar el césped, etc.</li> <li>Video juegos activos: Revolución de baile</li> </ul>

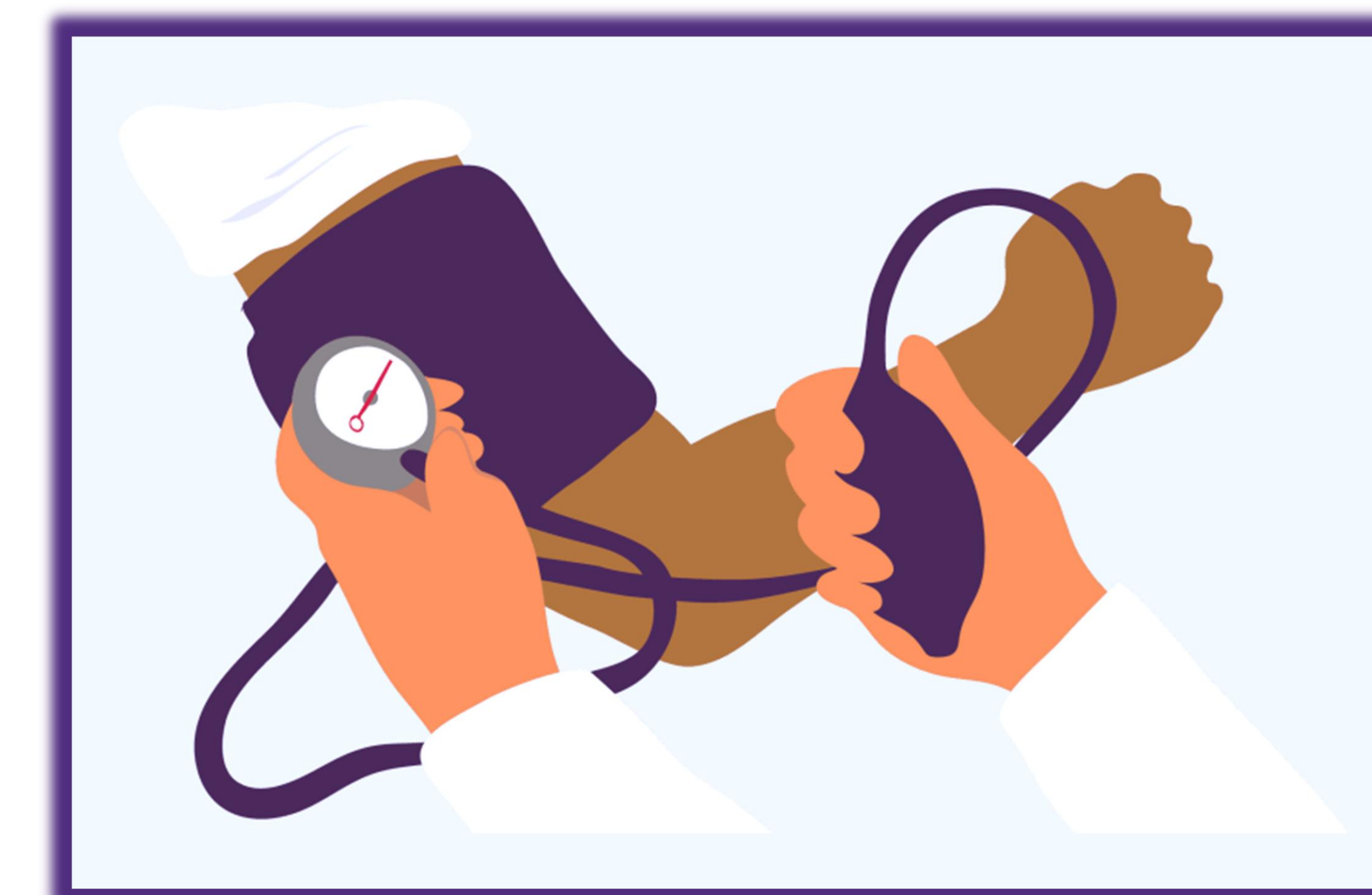
### DISCUSSION

- Culture and social determinants affect how messaging about hypertension are perceived by both children and their families. Within this study, we have been able to provide a new, culturally-competent resource to all clinic patients who have a diagnosis of chronic hypertension during new and follow-up visits. This study focuses on improving blood pressure control, specifically in African-Americans children who have struggled with the management of hypertension.
- Our ultimate goal is to continue to identify connecting socioeconomic factors that link higher rates of hypertension to certain populations and move toward the incorporation of hypertension educational material through the use of hypertension counselors.
- The next phase of this project is the continue steps towards integration of hypertension counselors on days that are designated as “Hypertension Clinic Days”. Here, hypertension educators will have dedicated days during hypertension clinic to reinforce lifestyle behaviors, diet, and exercise as well as provide counseling and referrals. We predict that regular educational sessions for these patients will help to reinforce dietary and exercise recommendations that are essential in the management of hypertension.

### ACKNOWLEDGEMENTS

I would like to thank Holly Ingram, MS4 for all her assistance with our on-going project identifying barriers to hypertension management in communities as well as her assistance with the design of the clinic posters.

I wish to show my appreciation to the Service-Learning Distinction Track at the Brody School of Medicine for allowing me the platform to conduct scholarly, community based research addressing a healthcare issue/need within the local community of Greenville, NC.



1. [https://www.kindpng.com/imgv/hMRfRb\\_0ypotension-hypertension-blood-pressure-animated-blood-pressure-cartoon/](https://www.kindpng.com/imgv/hMRfRb_0ypotension-hypertension-blood-pressure-animated-blood-pressure-cartoon/)