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# Hypertension Management Through Patient Education

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Hypertension Management  
Through Patient Education  
Shaleena Kumar  
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### **Clinical Leadership Theme**

Through empowering our hypertensive veteran population, education has the ability to drive self-management behavioral improvement. This requires building a sustaining communication bridge between the healthcare team and the veteran patient population. Communication intertwines with the following clinical leadership theme—interaction. Interaction serves as an avenue to increase communication and deliver an intervention aimed to improve patient outcomes (Nelson, Batalden, & Godfrey, 2007). Furthermore, the Team Manager, Educator, and Outcomes Manager aspects within the Clinical Nurse Leader role must be incorporated for the performance improvement project's success. The Clinical Nurse Leader functions as a Team Manager to form and lead an interdisciplinary team to provide hypertension education. The education material will be carefully formulated by the use of evidence based literature and conveyed through an interactive class; thus reinforcing the Clinical Nurse Leader's Educator skill set. Additionally, it is imperative that patient outcomes be measured to help analyze the Hypertension class' effect on the Veteran participants. Patient care outcomes indicate the care quality delivered within the microsystem; thus the Clinical Nurse Leader serves as an advocate to drive evidence based practice toward patient outcomes' destination (AACN, 2013).

On a global scale, we aim to improve blood pressure control in hypertensive patients within the Primary Care Clinic. The process begins with defining a healthy, or well-controlled blood pressure reading, specifically with systolic blood pressure readings below 140 mmHg and with diastolic blood pressure readings below 90 mmHg (Department of Veteran Affairs, 2015). Additionally, we must identify the poorly controlled hypertensive patients in accordance to our clinical dashboard. The hypertension education class serves as an intervention to improve the well-controlled hypertensive patient population percentage closer to the organization's target

goal. By providing additional patient educational resources, we expect to improve our performance measure regarding our hypertensive patient population and their blood pressure readings. We aim to improve patient outcomes through emphasizing lifestyle changes and medication compliance to hinder complications such as strokes, renal failure, and myocardial infarctions.

### **Statement of the Problem**

Hypertension serves as a common diagnosis among Americans, and its management to prevent further cardiovascular complications remains as an organizational goal. In the Primary Care Clinic, Veterans see their providers for acute and chronic care issues. Each appointment presents as an opportunity to address hypertension management, however, Veterans may not receive enough time to address their concerns or process the information presented in a short amount of time. Additionally, the Department of Veterans Affairs tracks the percentage of well-controlled hypertensive patients for every clinic and provider; the metrics in our facility have not met the target goal this year. Poorly managed hypertension presents as an urgent matter, because Primary Care aims to prevent cardiovascular complications through preventative care. In fact, over 360,000 Americans died in 2013 due to complications associated with hypertension (CDC, 2015). Data from our current dashboard reveal that we have a decrease in the number of patients with blood pressure readings less than 140/90 (Department of Veterans Affairs, 2015).

Additionally, complications secondary to poorly managed hypertension precede the increased use of urgent care and emergency room resources, thus increasing costs for our healthcare organization. The fiscal impact of hypertension on our nation's healthcare system is tremendous; in fact, 46 billion dollars are spend treating hypertension and includes missed workdays (CDC, 2015). Hypertension is a costly and devastating disease process if it is not

managed appropriately. Action must be taken to improve our patient population's blood pressure readings and to prevent complications. Therefore, to improve the hypertension performance metric, a hypertensive cohort of Veterans will receive a hypertension class aimed at improving self-management in order to meet the less than 140/90 mmHg parameters.

### **Project Overview**

The project takes place in a small, urban outpatient clinic located in Northern California. This clinic provides Primary Care services to approximately 5,830 Veteran patients, and 3,400 of these patients have a hypertension diagnosis (Department of Veteran Affairs, 2015). The Primary Care Clinic comprises the microsystem of interest; which includes eight Primary Care physicians, three Primary Care nurse practitioners, six RN care managers (of which two are on extended sick leave), six LVNs, and three clerks. Often times, sick calls occur and staff often float to other areas outside of Primary Care for coverage, or must compensate through taking on an increased workload. These times of stress can impact the quality of care that our patients receive, especially during scheduled and drop in appointments. Patients have a limited amount of time to discuss chronic and acute issues with their provider; likewise, providers have a limited amount of time to provide health promotional education, such as lifestyle modification and medication adherence. Many times, referrals are made to Registered Dietitians or to the Pharmacist to assist with managing patients; however, these visits are separate from a Primary Care appointment and require the patient to return to the clinic at a later time. Therefore, we must propose an intervention that will allow numerous patients to receive beneficial education from specialists during one visit to the clinic in order to maximize their time as well as the interdisciplinary healthcare team's time.

To track performance in the Primary Care Clinic, the organization provides data by facility and provider for various performance based measures. These measures include the percentage of one's diabetic population whose hemoglobin A1c tests are monitored on a regular basis; the percentage of diabetic patients who receive a recommended retinal exam; and the percentage of hypertensive patients whose blood pressure readings are below 140/90 mmHg (Department of Veteran Affairs, 2015). The target goal set by the organization for the percentage of hypertensive patients to achieve a systolic blood pressure lower than 140 mmHg and a diastolic blood pressure lower than 90 mmHg must be 72%. This percentage is set by the central office in Washington D.C. and is a national directive for all facilities providing care for the Veteran population. For the past year, our clinic has not met this goal; Figure 1 demonstrates the fluctuating trend in our data (Appendix A). In July 2014, our Primary Care Clinic had 68% of its hypertensive patients with blood pressure readings below 140/90 mmHg; this was a mere 4% under the target goal. The Primary Care Dashboard in early July 2015 reflects an overall clinic performance at 63%, which is 9% below our target goal and a drop in performance from a year earlier (Department of Veteran Affairs, 2015). In order to improve our performance measure regarding our management of hypertensive patients, the project aims to provide a group education class to empower hypertensive patients to take the necessary steps to lower their blood pressure readings and follow up with their Primary Care Provider for further management.

To formulate a group education class, expertise from Cardiology and Clinical Psychology became available through email exchanges and face-to-face meetings. Due to staffing shortages and limited availability, a pharmacist and dietician were unable to take part in providing teaching for the class. The CNL student incorporated diet and medication adherence into the RN portion of the class; the Clinical Psychologist discussed relaxation techniques and stress management,

while the Cardiologist educates patients regarding the devastating cardiovascular and renal complications resulting from poorly controlled hypertension. With these resources established, a group class was scheduled for the end of June 2015.

Through utilizing the organization's Primary Care Dashboard, which harbors the performance measure data, we identify a hypertensive cohort to target with our group education class. To be more specific, one Primary Care physician's hypertensive patients will be the target group, due to time constraints and resources for planning and establishing a group class. With assistance of a data specialist, a list with addresses and patient names was generated to help send class invitations. For our Primary Care physician of focus, his total of poorly controlled hypertensive patient equaled 113 at the start of the project; these patients received the invitations and were the target population for the group class (Department of Veteran Affairs, 2015). The percentage of well-controlled hypertensive patients prior to the class implementation will be compared one month later, in order to establish if patient outcomes were positively impacted. The dashboard's data updates on a daily basis through pulling blood pressure measurements that exist in the patients' electronic medical records. Following the class implementation, patients will be encouraged to apply their newly acquired self-care knowledge into practice and to drop into the clinic for a blood pressure check with an LVN or to follow up with a scheduled appointment with the Primary Care physician in July (which ever is applicable). These follow up visits in July will allow patients to recheck their blood pressure readings to see if they indeed improve their hypertension management; these follow up readings will be entered into the electronic medical record and will be included in the updated dashboard data.

The hypertensive veteran patient population will receive self-management education in a group setting and will be encouraged to follow up with their Primary Care Provider regarding

their blood pressure management. The class will be voluntary for known hypertensive patients who currently have a systolic blood pressure equal or above 140 mmHg and/or a diastolic blood pressure equal or above 90 mmHg. There will be no control or experimental groups receiving non-standard care, as this project serves to apply current evidence based practice to improve patient outcomes and the organization's performance measures. The aim of this project is to implement the class by the end of June with a target goal of increasing the well-controlled hypertensive cohort performance metric upwards of 2% by July 31<sup>st</sup>, 2015.

### **Rationale**

Primary Care has always been a busy hub for healthcare activity. Patients are checked in by a clerk, LVNs check vitals and clinical reminders, RN care managers follow up on hospitalizations and discharges, and Primary Care Providers complete their scheduled face-to-face appointments. In addition, secure messages must be answered, telephone clinic appointments need to be called, and reminder letters and follow up calls aim to bridge gaps in care. In theory, the whole team works like a well-oiled machine, however, when staffing plummets—so does the efficiency to provide quality care. In the past, each provider had their own set of dedicated staff members who worked together to address concerns related to the provider's patient panel. Performance metrics that are available in our dashboard show numerous decreases that reflect a decrease in the management of diabetes, hypertension, and hyperlipidemia (Department of Veteran Affairs, 2015). The performance gap related to hypertension management can be impacted by lack of staff, equipment, and patient education resources as evidenced by the fishbone diagram in Figure 2 (Appendix B).



To engage in this hypertension education project, key stakeholders must be included in the conversation regarding the goal to impact patient outcomes. The nurse manager, CNL preceptor, Primary Care physician, RN care manager, Clinical Psychologist, and Cardiologist engaged in cooperation to focus this project's efforts on a specific hypertensive cohort. Input from all interdisciplinary stakeholders contributed to formulating a lesson plan for the class. Additionally, the RN care manager and Primary Care physician sought to encourage patients seen in the clinic to attend the group class.

With any project, there exist positive and negative variables that influence its ability to successfully carryout its intended purpose. Through performing a SWOT analysis, as seen in Figure 3, we have expected strengths, weaknesses, opportunities, and even threats regarding our hypertension management in the clinic (Appendix C). Major weaknesses associated with our hypertension management class include: low staffing levels in the clinic and poor patient attendance for follow up visits. Though pharmacy and dietary did not participate in the interdisciplinary team who provided the group education, expertise from other providers such as Cardiology helped add strength to the group curriculum. Though patient attendance cannot be guaranteed, the class still provides an engaging environment for those patients who do actively take advantage of this project's intention to provide patient education.

While the clinic staff was on-board with establishing a group class, the costs associated with providing additional resources to our patients must be examined to justify its benefits in fiscal nature. The following costs are estimates and reflect the resources utilized in creating and implementing a hypertension class. A two-hour class consisted of one RN (the CNL student), who provided one hour of teaching. The cost associated with the CNL student was \$0. The Cardiologist provided 30 minutes of teaching, which cost \$72.11 and the Clinical Psychologist's

30 minute contribution cost \$27.92 (USAjobs.gov, 2015). Both estimates are based on full-time salaries within our organization. Additionally, supplies for the class such as printed handouts, visual aids, and snacks and water for the patients were an estimated \$100. Overall, the single session of hypertension education cost \$200.03; this expense was minimal as it covered a class for eleven patients in an outpatient clinic. Inpatient hypertension management costs related to hospitalizations cost the organization a national average of \$3,539 per patient (Yu et al, 2003).

Through providing preventative care in the form of a group education class, the Primary Care Clinic has the potential to empower our Veteran population to improve their lifestyle and self-care behaviors. If our patient population utilizes outpatient resources to manage their blood pressure readings and maintain them below 140 mmHg for systolic and below 90 mmHg for diastolic, we can prevent inpatient care utilization. Healthcare costs continue to skyrocket and we must focus on improving resource utilization. Our patients require interaction and information from the healthcare team, but may not feel that their needs are met during a short Primary care appointment. Though the above calculations are estimates, the cost of preventing potential inpatient costs outweigh the costs associated with providing a group class with various healthcare team members.

### **Methodology**

In regards to the hypertension management project, the plan included a group education class focusing on meeting the performance measure to maintain a systolic blood pressure lower than 140 mmHg and a diastolic blood pressure lower than 90 mmHg (Department of Veterans Affairs, 2015). We focused collecting data in the primary care dashboard for a particular primary care provider to narrow down the hypertension cohort to a more specific subset of patients. We will compare the percentage of well-controlled hypertensive patients (specifically those who

have a systolic blood pressure lower than 140 mmHg and a diastolic blood pressure lower than 90 mmHg) prior to the class (on June 25<sup>th</sup>) and the percentage on July 31<sup>st</sup>. The specific goal is for a 2% increase a month after the class intervention. While a 2% increase is a small change, it is imperative to be realistic in a short amount of time. Currently, the dashboard reflects that the Primary Care physician's percentage of well-controlled hypertensive patients is 49.6 prior to implementing the June 25<sup>th</sup> hypertension class (Department of Veteran Affairs, 2015).

To implement change, the CNL must incorporate a change theory into nursing practice. In particular, Kotter's change theory served as a wonderful tool for this project. Each step in the process provides an avenue to map out the steps needed to implement change within the microsystem. The eight steps include: create, build, form, enlist, enable, generate, sustain, and institute (Kotter International, 2015). Initially, the CNL student enabled a sense of urgency by presenting the performance measures that indicated that our hypertension metric did not meet our target goal. Additionally, a supportive team formed through collaboration with the CNL preceptor, nurse manager, Primary Care Provider, RN Care Manager, Cardiologist, and Clinical Psychologist. The vision for a hypertensive group education centered at reaching a systolic blood pressure below 140 mmHg and a diastolic pressure lower than 90 mmHg; this vision generated interest among the healthcare team. Despite staffing shortages, our healthcare team enjoyed a boost in morale with patient centered care projects. That boost in morale created excitement for change, and it helped the CNL student to enlist a volunteer army to help teach the hypertension class. To enable action and remove barriers, the team has worked on raising awareness of the hypertension class through mailing letters, phone calls, and working with the Primary Care Provider. Given the short amount of time to gather data after the class, it is important to focus on short-term wins. Sustaining acceleration involves maintaining sight on the goal and the

excitement for change. Lastly, the team must institute change by implementing the class. The patients who attended the class gained insight into their health, however, the outcomes will be measured through the qualitative data collected and presented in the organization's dashboard.

### **Data Source/Literature Review**

The driving force behind the hypertension education project stems from the Primary Care dashboard. This dashboard summarizes clinical data that reflects the performance for all facilities and their providers across the organization's medical network. The data serve as a reminder and motivating factor to continue to strive for improved patient outcomes. Due to the downward trend in the clinic's overall hypertension management performance measures this year (Figure 1 in Appendix A), there was a sense of urgency to create a project that centered on improving patients' abilities to change their unhealthy habits, and lower their blood pressure readings. Additionally, the project applies evidence based literature into nursing practice. In the following literature review, six articles ranging from 2011 to 2015 support group education. The articles were gathered through a PICO search strategy of *hypertension*, *outpatient*, and *patient education* in the University of San Francisco's Fusion database search.

Babae et al (2014) performed an experimental study to examine the outcomes of a group hypertension education program. Patients were randomly selected and their blood pressure knowledge and lifestyle scores were evaluated. Each patient initially received individual education sessions with a Cardiology resident regarding diet, medication regimen, and exercise habits. Patients were then put into group education classes offered monthly for three months. Follow up included rechecking blood pressure knowledge; the data collected revealed an increase in patients' hypertension knowledge and a decrease in negative health behaviors as reported by study participants, such as consuming a sodium rich diet, medication non-

compliance, and physical inactivity. Researchers concluded that the hypertension education increased awareness and self-management behaviors. Evidence presented in this study emphasizes the important role education plays in improving patients' perceptions about their medical condition and their lifestyle's contribution to hypertension management.

Chu-hong et al (2015) conducted a quantitative study in China that divided three types of education modules among 360 hypertensive patients. Group one was given reading materials to read on an individual basis. Group two received a monthly educational lecture, while Group three attended monthly interactive workshops. Results from the two-year intervention revealed that normal blood pressure readings, BMI and serum lipid reduction occurred statistically higher in the groups who either received education through workshops or lectures. The group who received only reading materials for self-learning experienced the least improvement in hypertension management. This study demonstrates the positive patient outcomes associated with group education interventions; the evidence strongly suggests that simply handing educational reading materials are not enough to help patients understand lifestyle modifications and hypertension management.

Lauziere, Chevarie, Poirier, Utzschneider, and Belanger, (2013) highlight a relationship between decreases in blood pressure measurements and the patients' participation in an interdisciplinary-led hypertension class. A team of healthcare professionals, which included a nurse practitioner, pharmacist, registered dietician, and physiotherapist, provided dedicated educational modules that addressed different aspects of hypertension management. Each group session focused on a topic taught by each healthcare professional, for example, the pharmacist taught one class on medication adherence, while the dietician taught a class on sodium reduction. Researchers noted a decrease in systolic blood pressure readings in the patient group who

attended the classes versus the control group. Through providing an interdisciplinary team approach, patients benefited from receiving information in a group setting versus their counterparts who did not participate in the classes.

North and Palmer, (2015) compared the outcomes associated with a diabetic education class versus the standard clinic follow up method. The retrospective study compared two groups of male Veteran patients who were diagnosed with Diabetes Mellitus type 2. Prior to the intervention, hemoglobin A1c tests, systolic blood pressure readings, and weight were recorded and retested following the four-month study period. Though there was not statistically significant difference in systolic blood pressure readings between the two patient groups, the diabetic patients who attended the group education class experienced a significant improvement in their post intervention hemoglobin A1c and weight reduction. Researchers contribute the comprehensive nature of the group education class to the success in improve patient self-care behaviors. When compared to simple written instructions given to patients, group education exhibits more benefits in providing patients a more interactive approach to learning how to improve their skills to manage their chronic disease process.

Park, et al., (2011) implemented a health education and exercise program to South Korean hypertensive patients living in a residential facility. The aim was to improve quality of life and hypertension management. The program combined exercise classes and hypertension education and was delivered over twelve weekly sessions. The results showed a marked decrease in systolic blood pressure readings and an increase in self-efficacy for physical activity in the experimental group versus the control group who did not participate in the classes. The study provides insight into the impact of multidisciplinary teams and group education classes to help encourage positive health modifying behaviors. Class participants benefited from interacting

with their peers and were motivated in maintaining an active lifestyle, which helped decrease systolic blood pressure readings.

Trogon, Larsen, Larsen, Salas, and Snell, M. (2012) examined the cost-effectiveness of a hypertension-monitoring education program. The program helped 151 patients to decrease their blood pressure measurements within healthier levels. When calculating all study participants in one year, researchers discovered 0.3 cardiovascular events such as stroke and acute myocardial infarctions were avoided and predicted a savings of \$767 per well-controlled hypertensive patient. The authors concluded that their hypertension education program was a cost-effective strategy that could prevent cardiovascular consequences in addition to the fiscal burden that accompanies poorly controlled hypertension.

The recent literature presents a strong case in favor of group education interventions for chronic disease management. Benefits from the quantitative studies exhibit that systolic blood pressure readings have improved after patients have received an interactive, group education module. The group education intervention shows promise and motivates patients to improve their self-care behaviors. These studies also emphasize a team-based approach in delivering the education material to patients. The literature supports the need to provide additional educational resources outside of providing the standard handouts given during scheduled appointments. Time spent during Primary Care appointments are not enough to sustain and motivate our patient population to change their attitudes toward managing their hypertension. Through participating in a group atmosphere, the interactive element and social aspect with the healthcare team will increase motivation and help guide patients to take their blood pressure measurements more seriously. When patients change their attitudes and improve their lifestyle, we expect to see a marked improvement in our hypertension performance measures in the dashboard.

### **Timeline**

Due to the short nature of the summer semester, it is imperative to maintain a timeline to complete the necessary tasks for this project. Gathering research evidence and input from an interdisciplinary team to formulate a class module took place in late May to mid June. The primary responsibilities in tracking data from the dashboard and contacting patients regarding class attendance revolved around the CNL student. It was crucial to establish the class at the end of June to allow adequate time in July for class participants to follow up in the Primary Care clinic for repeat blood pressure checks and documentation in the electronic medical record. This required early meetings to establish the interdisciplinary team to teach the class by early June. The Cardiologist and Clinical Psychologist were available and willing to lend their time alongside the CNL student for the two hour hypertension class. Due to the on-going nature of the data collection, the final percentage of well-controlled hypertensive patient will not be available on the dashboard until the end of July. Please refer to Figure 4 for the Gantt chart to describe the project's timeline (Appendix D).

### **Expected Results**

Due to the strong relationship between improved patient outcomes and group education interventions through evidence based literature, it is expected that there will be an increase in the percentage of well-controlled hypertensive patients. Prior to the class, the dashboard showed that our Primary Care physician of focus had only 49.6% of his hypertensive patients whose systolic blood pressure measure below 140 mmHg and their diastolic blood pressure below 90 mmHg (Department of Veteran Affairs, 2015). We will refer back to the dashboard on July 31<sup>st</sup> for a month follow up after implementing the class. Though, due to the short amount of time between the class implementation and the follow up data collection, we do not expect to reach the



organizational target goal of 72%; however, we have the ability to meet the specified goal of a 2% increase as outlined in the project.

### **Nursing Relevance**

This project exemplifies the patient advocate and educator roles within the nursing profession. To improve patient outcomes through applying evidence based practice continues to push the nursing profession forward. Additionally, acting as a project manager serves as a wonderful learning experience for the CNL student. Nurses have the ability to work alongside other major healthcare professionals to help create change within the microsystem. As more organizations push for nursing excellence and Magnet status, it is imperative that nurses take part in projects on the unit level. Through providing patient education, we build trust and a solid relationship with our patient population. This trust is absolutely necessary in fostering an attitude to modify one's behavior for improved health outcomes.

### **Summary Report**

This project specifically aims to improve the Primary Care Dashboard performance measure regarding the Hypertensive population metric; our goal is to increase the percentage of hypertensive patients with blood pressure measurements lower than 140/90 mmHg. Prior to the implementation of the class, the provider of interest had only 49.6% of his hypertensive cohort well controlled. The specific goal was to increase this percentage by 2% by July 31<sup>st</sup>, 2015. A list from the provider's hypertensive cohort with elevated blood pressure readings above the 140/90 mmHg goal was generated with the assistance of a data manager. The list allowed for a mass letter to be mailed out early June 2015 to inform patients regarding the June 25<sup>th</sup> class. Phone calls were made the week before the scheduled class to help generate interest and class attendance.

The class was administered by the interdisciplinary team formed by the Clinical Nurse Leader student, Clinical Psychologist, and Cardiologist. The class included eleven Hypertensive Veterans, all of whom actively participated during our discussion. As the class began, each Veteran signed in and indicated whether he had a blood pressure monitor at home. Each class participant had his blood pressure measured prior to class instruction. Educational materials included an informational booklet and a blood pressure measurement tracker handout. Each patient received a booklet explaining hypertension management in laymen's terms, and described the importance of medications and lifestyle changes (NHLBI, 2011). The blood pressure tracker provided a tool in which patients can write down their daily blood pressure measurements to keep for his own records and to present to his primary care provider for guidance (AHA, 2012). The class topics included risk factors and how elevated blood pressures affect the body, the importance of diet and medication adherence, stress management, and the consequences associated with poorly controlled hypertension. At the end of the class, each Veteran was encouraged to return to the clinic for drop in blood pressure appointments to follow up their progress toward a measurement less than 140/90 mmHg.

Each week leading up to July 31<sup>st</sup>, the percentages of well managed hypertensive patients were recorded and displayed on a graph (Appendix E). There was an immediate increase in the hypertensive metric two weeks after the class, however, the percentage did drop in week three and four. During this time, patients were called and reminded to follow up in the clinic regarding their blood pressure if they had not already completed. After patients were reminded, the final percentage reached to 51.8, which exceeded the original goal of 2%. By the end of the clinic day on July 31<sup>st</sup>, each class participants' electronic medical record was reviewed to collect blood pressure data. Appendix F displays the blood pressure readings before and after receiving the

hypertension information provided by the interdisciplinary team. A total of eight class participants followed up in the clinic to have their blood pressure remeasured, three participants did not return to the clinic, and five of those who did follow up had blood pressure readings that reached our organization's goal (systolic less than 140 and diastolic less than 90). The average blood pressure prior to the class was 147/75, while the average blood pressure after the class was 144/79 (Appendix F). Overall, the project sought to help Veterans lower their blood pressure while increasing the hypertensive performance measure the percentage of well-managed hypertensive patients. This project was successful in increasing the performance of our provider's hypertensive cohort in improving their blood pressure readings; and thus creating an improvement in patient outcomes that can potentially prevent harmful consequences associated with poorly controlled hypertension.

With the success of the hypertension management class, we wish to be able to create a sustainability plan to continue the efforts for future classes. However, due to the recent drop in nursing staff, we must redistribute our resources to help build our healthcare team. Ideally, a hypertension champion would be appointed to help carry on the legacy of this project; however, we must wait until more staff can be hired to replace those who have left the clinic. In the meantime, the Primary Care Clinic staff will continue to monitor and remind patients on an individualized basis to follow up for further guidance regarding their hypertension management.

### **Conclusion**

Through interaction, an interdisciplinary team provided a group educational opportunity for a group of Hypertensive Veterans. These class participants demonstrated that they were able to motivate themselves to improve their blood pressure management, as evidenced by data collected pre and post implementation. Despite a small number of participants, the class' costs

are minimal when compared to the thousands of dollars spent per patient to treat hypertension in the inpatient setting. Due to the improvement of our hypertension performance metric, the class itself has garnered more support and will be utilized in the future by the Primary Care Clinic when staffing levels become more stabilized.

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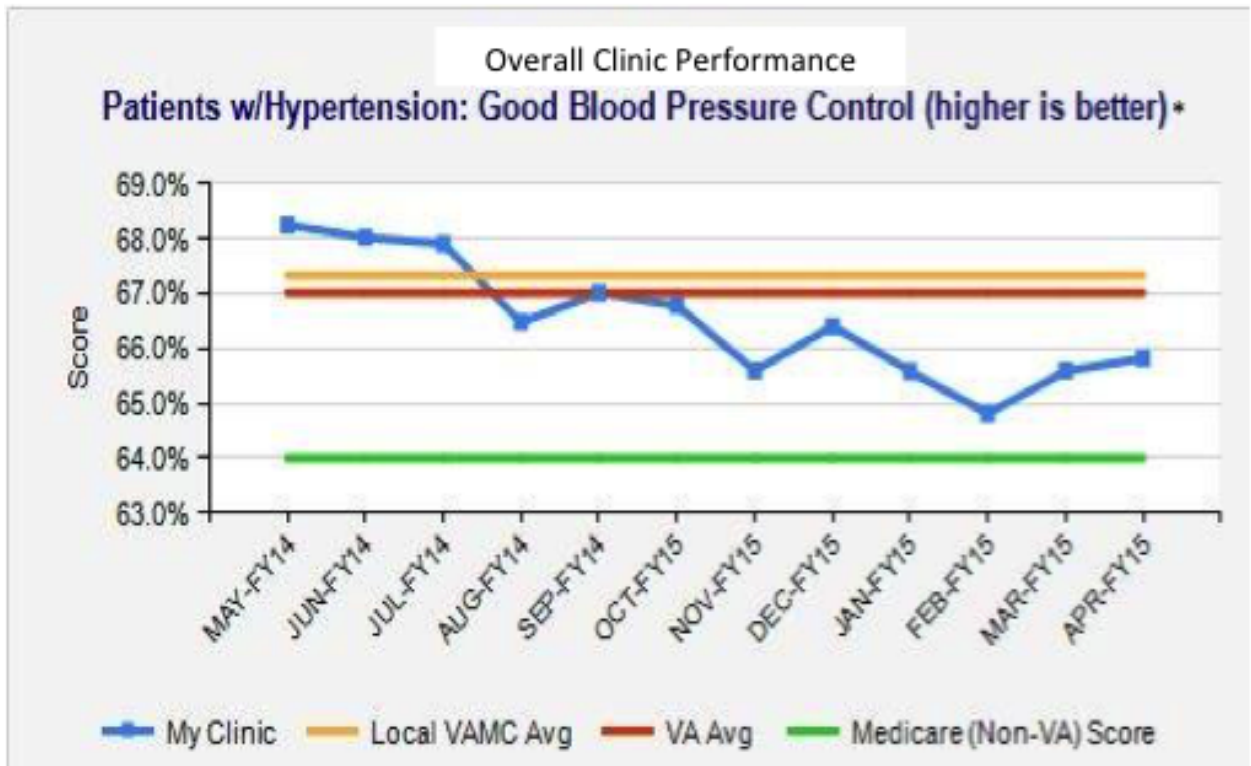
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Appendix A



\*Good BP control defined as systolic BP less than 140 mmHg and diastolic BP less than 90 mmHg

Figure 1. Patients with hypertension. A trend of the Primary Care Clinic’s performance from May 2014 through April 2015.



Appendix B

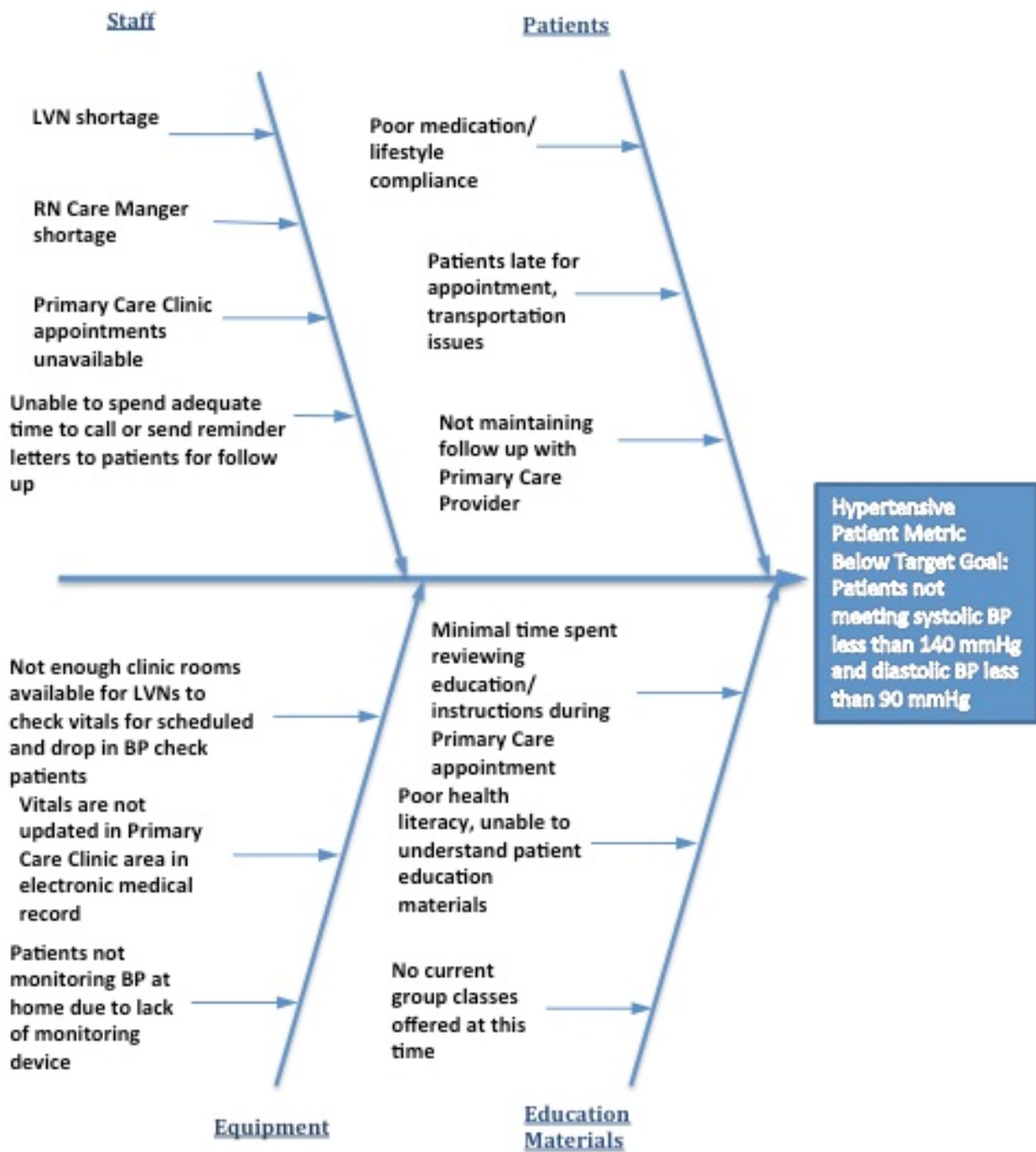


Figure 2. Fishbone diagram. This figure illustrates the root cause analysis for the hypertension patient metric performance gap.

**Appendix C**

**SWOT ANALYSIS**

<b>Strengths</b>	<b>Weaknesses</b>
<ul style="list-style-type: none"> <li>• Providers, LVNs, RNs, clerks work together to provide care to Veterans</li> <li>• Care managers address patient care concerns to free up providers' time to focus on scheduled patient appointments</li> </ul>	<ul style="list-style-type: none"> <li>• Low staffing levels</li> <li>• Unable to hire/recruit new staff in timely fashion to replace those who left</li> <li>• Staff unable to meet daily demands of contacting patients with phone call/letter reminders for BP checks</li> </ul>
<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>• Create education classes to address preventative care needs and monitor chronic illnesses</li> <li>• Provide Veterans with information and access to programs to help with weight loss, tobacco cessation, tele-health referrals, dietary consults, etc</li> </ul>	<ul style="list-style-type: none"> <li>• Increased workload caused by low staffing</li> <li>• Staff burnout and little support from organization's management</li> <li>• Poor patient attendance for education classes and follow up appointments</li> </ul>

*Figure 3.* SWOT analysis. This figure presents strengths, weaknesses, opportunities, and threats related to the hypertension management project in the Primary Care Clinic.

Appendix D

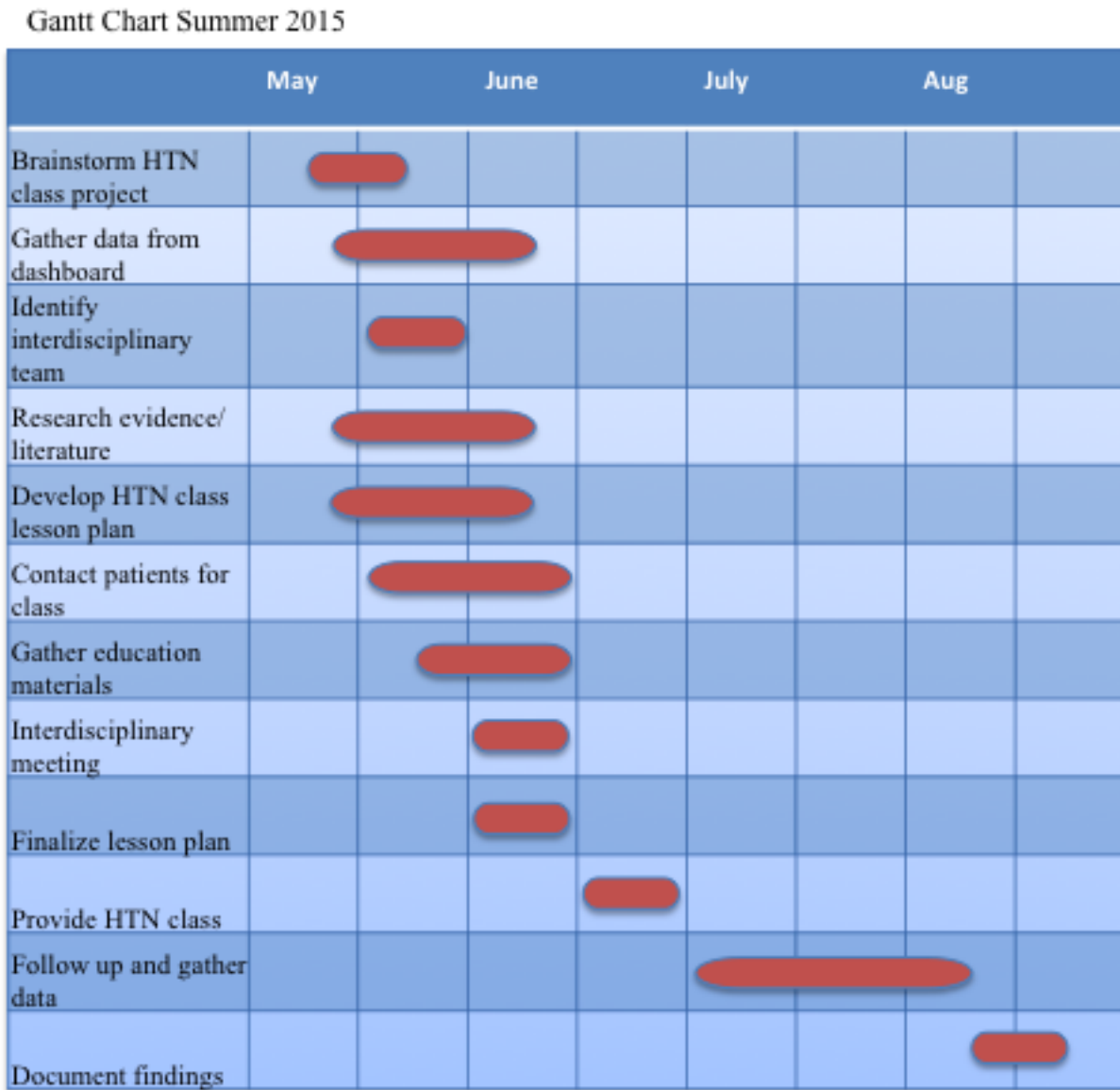


Figure 4. Gantt chart. This figure illustrates the timeline needed to complete the hypertension project.

Appendix E

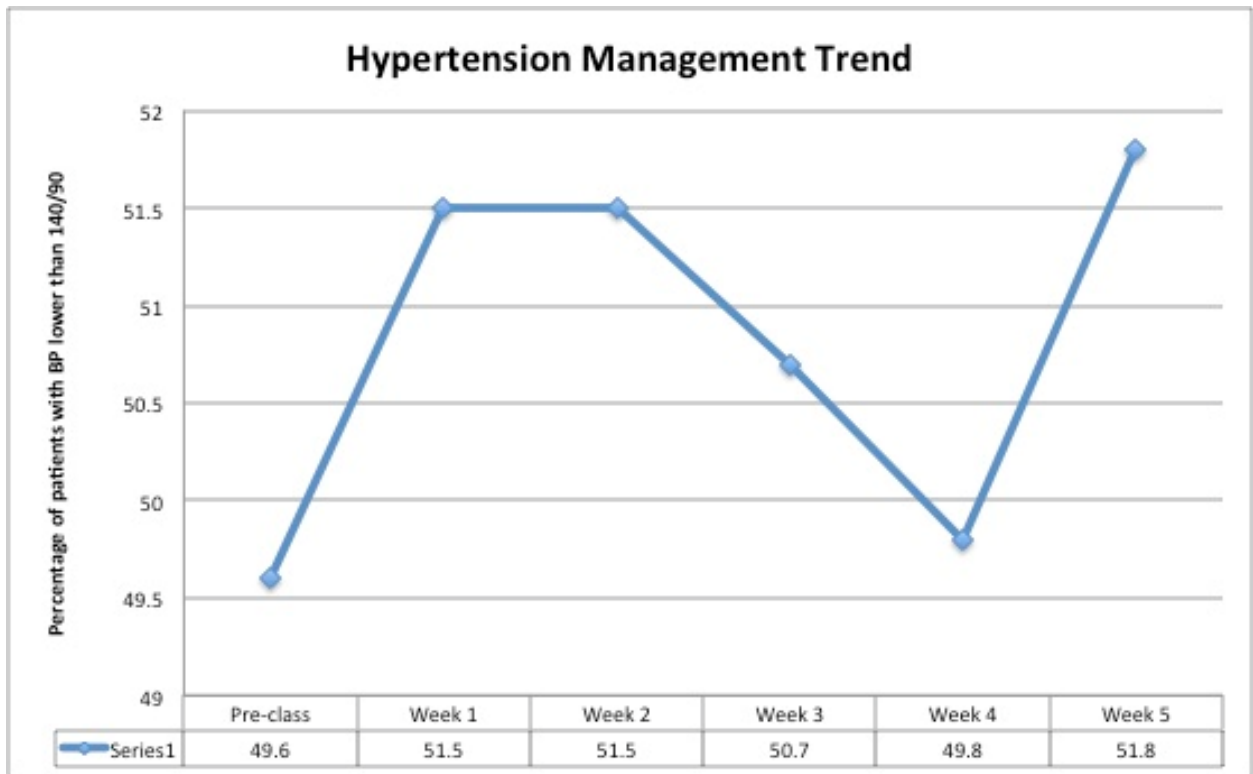


Figure 5. This graph illustrates the data collected from the Primary Care Dashboard before, and after the implementation of the hypertension class.

**Appendix F**

Patient	Before	After	Difference in Systolic BP
1	142/72	135/78	-7
2	132/66	138/76	+6
3	144/78	149/89	+5
4	146/89	130/82	-16
5	156/79	146/87	-10
6	148/78	148/78	0
7	151/88	137/88	-14
8	142/70	138/62	-4
9	160/82	160/82	0
10	140/66	140/66	0
11	158/60	166/84	+8
Mean BP	147/75	144/79	(-2.9)

*Figure 6.* This table summarizes the blood pressure measurements prior to class instruction and after patients returned to clinic for follow up.