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### Overcoming Barriers to Uncontrolled Hypertension

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For NURS 5382: Capstone

In the School of Nursing

The University of Texas at Tyler

by

Cassie Thacker

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### **Acknowledgments**

I would like to thank everyone who has helped me reach this point in my academic career. The professors and instructors throughout this process have been so helpful and encouraging. They have always answered questions and helped me in any way possible. My family and friends have also been a wonderful support system. My husband has made so many sacrifices for our family so that I could pursue my academic goals and has made this possible. I am so grateful and thankful to GOD for allowing me this opportunity.

### **Executive Summary**

Hypertension is associated with increased morbidity and mortality when left untreated. Often those affected have poor medication compliance and lifestyle habits. This is often the result of busy lifestyles and poor health habits formed overtime. Many times, medication is not enough to control blood pressure. Overcoming life's obstacles to control hypertension is crucial to the control of hypertension. The PICOT question formulated for this capstone project is the following. In adult patients with difficult to control hypertension (P), how does an individualized education intervention to overcome barriers to lifestyle changes (I) compared to no individualized program (C), affect better control of their hypertension (O) within 3 months (T)? Due to the restraints COVID has placed upon the healthcare system this project was unable to be implemented therefore this will be a benchmark project. This benchmark project aims to provide patients with education and various lifestyle interventions to help them overcome those barriers to be to gain better control of their hypertension.

### Overcoming Barriers to Improve Hypertension

Many people are affected by hypertension and find managing their blood pressure difficult. Busy schedules and lifestyle barriers often get in the way of managing blood pressure. This disease, if not properly managed, can have devastating effects on health and wellness. There is change needed on the education of hypertension that patients receive not only at diagnosis but at regular clinic visits. It can be difficult to get patients to reach their target blood pressure goal and stay on track in the everyday clinic setting.

There are many patient -related patient related factors that may contribute to inadequate blood pressure control including lack of awareness of the relevance of hypertension, failure to comply with recommended lifestyle, medications, and poor medication compliance (Dusing, 2006). This can be due to busy schedules, tolerability problems, or incomplete understanding of the long-term nature of therapy. If evidence based changed in not implemented the continuing consequences could be dire. Wexler et al. (2009), suggests that improved awareness and control of blood pressure has a positive impact on the morbidity and mortality associated with the disease. Increased awareness and control of hypertension can greatly reduce the morbidity and mortality associated with uncontrolled hypertension (Wexler et al., 2009). Without immediate intervention Progression of unmanaged hypertension will continue to increase, and patient outcomes could worsen.

### **Rationale for the Project**

Integrating patient preferences and values are crucial when it comes to implementing evidence-based practice (Melnik & Fineout-Overholt, 2019, pp. 219–232). It is important to understand what patients want and expect when it comes to their care. Taking the time to explore

their knowledge deficits and what is important to the patient will help the provider when implementing interventions into practice. Cappelleetti et al. (2020) found that over time patients showed less interests in education over hypertension as their disease progressed. That is why it is crucial to understand patients' informational needs and perceived relevance to the issue. This is important to be able to implement tailored communication and educational strategies to promote adherence to medication compliance and self-management skills.

The first step to this is learning what is important to the patient. Having a deeper understanding of what is important to the patient, what they want to know and how they want to learn is critical. Patient centeredness is the cornerstone when integrating patient preferences into evidence-based decision making (Melnyk & Fineout-Overholt, 2019, pp. 219–232). The stakeholders are the providers and nurses in primary care clinics. The staff responsible for educating patients. Patients want to have better health outcomes and control of their chronic diseases such a hypertension. Providers want patients to have better control of their hypertension because it helps promote quality of life and positive health outcomes for the patient.

### **Literature Synthesis.**

This author chose articles that support the hypothesis that interventions to overcome lifestyle barriers can lead to control of hypertension. The literature supports the use of individualized education interventions to help patients with uncontrolled hypertension. According to the four randomized control trials literature patient education, e-counseling, online workshops, educational videos, and home blood pressure monitoring can greatly reduce systolic and diastolic blood pressure and help gain better control on hypertension. These interventions allowed participants to overcome lifestyle barriers associated with uncontrolled hypertension.

The use of technology was a common similarity in all four articles. According to Kuhmmer et al. (2016), a total sample size of 256 participants with group 1 using multidisciplinary interventions and group 2 using multidisciplinary plus personalized interventions revealed that the use of multidisciplinary interventions plus personalized education decreased SBP more than multidisciplinary interventions alone. This supports the importance of individualized personal care.

Using e-counseling to educate and inform participants about hypertension and the importance of medication compliance was another positive intervention used to support the change project patient's regulation of their hypertension (Insert citation). According to the randomized control trial by Nolan et al. (2018), systolic blood pressure was greatly reduced in the intervention group compared to the control group. Improving healthy lifestyle behaviors is something all three randomized control trials have in common. The randomized control trial by Hacıhasanoglu et al. (2011) has two groups. Group A received only medication adherence education while group B received both medication adherence education and individualized education on healthy lifestyle behaviors. At the end of the study, it concluded that Group B was more effective than group A receiving both medication adherence and individualized education was more effective in lowering blood pressure readings and proved to be statistically significant.

Using individualized tailored based education interventions was the aim of the randomized control trial by Friedberg et al. (2015). This study concluded that tailored education interventions lowered blood pressure in the participants who were apart of SMI group compared to the usual care and HEI groups. SMI may be a valuable additional tool to lower blood pressure levels and improve control" (Friedberg et al., 2015).

A systematic review conducted by Gwady-Sridhar et al. (2013), revealed a total of 138 articles with 97 being randomized control trials. The similarities within all the articles were individualized education intervention to allow participants to overcome barriers that hindered adequate blood pressure control. The 97 RCT articles included interventions such of behavior change counseling, patient education, reminders sent from healthcare facilities. The conclusion was drawn that patient education regarding long term effects of hypertension and associated risks was a valid intervention and improved adherence to blood pressure medication leading to improved blood pressure control among participants.

The meta-analysis conducted by Mills et al. (2018) compared the effectiveness of 8 intervention strategies for blood pressure control in adults with hypertension. The study reviewed 100 randomized control trials and it was concluded that the intervention of personalized health coach via tele-video proved to be the most significant intervention and significantly reduced Systolic and Diastolic blood pressure.

### **Project Stakeholders**

There are many stakeholders for this capstone project. If this benchmark project were to be implemented into a clinic setting there would be many stakeholders that this project would affect. Patients would be directly affected and involved. This project is patient centered. It would also require the cooperation of administrators, providers, and nurses to help implement the project. The stakeholders are the providers and nurses in primary care clinics. The staff responsible for educating patients. Patients want to have better health outcomes and control of their chronic diseases such a hypertension. Providers want patients to have better control of their hypertension because it helps promote quality of life and positive health outcomes for the patient.

### **Implementation Plan**

Integrating patient preferences and values are crucial when it comes to implementing evidence-based practice (Melnyk & Fineout-Overholt, 2019, pp. 219–232). It is important to understand what patients want and expect when it comes to their care. Taking the time to explore their knowledge deficits and what is important to the patient will help the provider when implementing interventions into practice. Cappelleetti et al. (2020) found that over time patients showed less interests in education over hypertension as their disease progressed. That is why it is crucial to understand patients' informational needs and perceived relevance to the issue. This is important to be able to implement tailored communication and educational strategies to promote adherence to medication compliance and self-management skills.

This benchmark project is centered around implementing educational interventions to overcome lifestyle barriers to patients with uncontrolled hypertension. The first step to this is learning what is important to the patient. Having a deeper understanding of what is important to the patient, what they want to know and how they want to learn is critical. Patient centeredness is the cornerstone when integrating patient preferences into evidence-based decision making (Melnyk & Fineout-Overholt, 2019, pp. 219–232).

Hypertension is a chronic disease process that claims the lives of many Americans. Over 65 million American adults are living with hypertension (Friedberg et al., 2015). Hypertension can be difficult to control due to life stressors such as forgetting to take medication, making poor diet choices, and not finding time to exercise. Suboptimal adherence to medication and lifestyle changes is a common problem leading to inadequate control (Friedberg et al., 2015). Overtime all these changes have the potential to lead to suboptimal health outcomes. The implementation

of educational interventions aimed at overcoming these barriers have the potential to allow patients better blood pressure control.

Individualized education interventions are the cornerstone of my plan to help patients gain control of hypertension. Patients with uncontrolled or difficult to control hypertension will be asked if they would like to participate in the intervention. The intervention for my PICOT consists of providing patients with individualized education interventions that will help them overcome lifestyle barriers. Patients will have the opportunity to access 10-minute videos weekly that will give them lifestyle tips on how to overcome those barriers. They will also have to monitor their blood pressures at least daily at home and enter these readings to a website so that they can be easily accessed, tracked, and stored. This intervention and plan are highly dependent on patient involvement and cooperation. This intervention will allow patients to take charge in their health and be active participants. The following is an overview of each phase of the plan with detailed discussion of each phase.

#### Plan Overview & Description

Phase I: During the initial phase it is important to make sure and gain consent of patients who are willing to participate. Ensure that all the required paperwork is complete, and permission is granted with the facility. Ensuring that the website is created and formatted appropriately is an important component of this step. This phase will also include educating patients over the interventions that will be implemented including what to expect during the intervention or phase II of the plan.

Phase II: This phase is the implementation phase. The interventions will be employed during this phase. Patient involvement and participation are critical to this phase and the duration of the

plan. A website will be set up and each week an educational 10-minute video will be uploaded.

The content will give patients the tools needed to overcome lifestyle barriers that keep them from attaining blood pressure control. This same website will have a place for patients to easily upload daily blood pressure readings so that they can be tracked and easily stored when they are evaluated during the later phases of the plan.

Phase III: This phase will consist of gathering and assessing data. During this phase each patient's blood pressure readings will be assessed individually. Assessing for a reduction in either systolic or diastolic blood pressure is the goal of this phase.

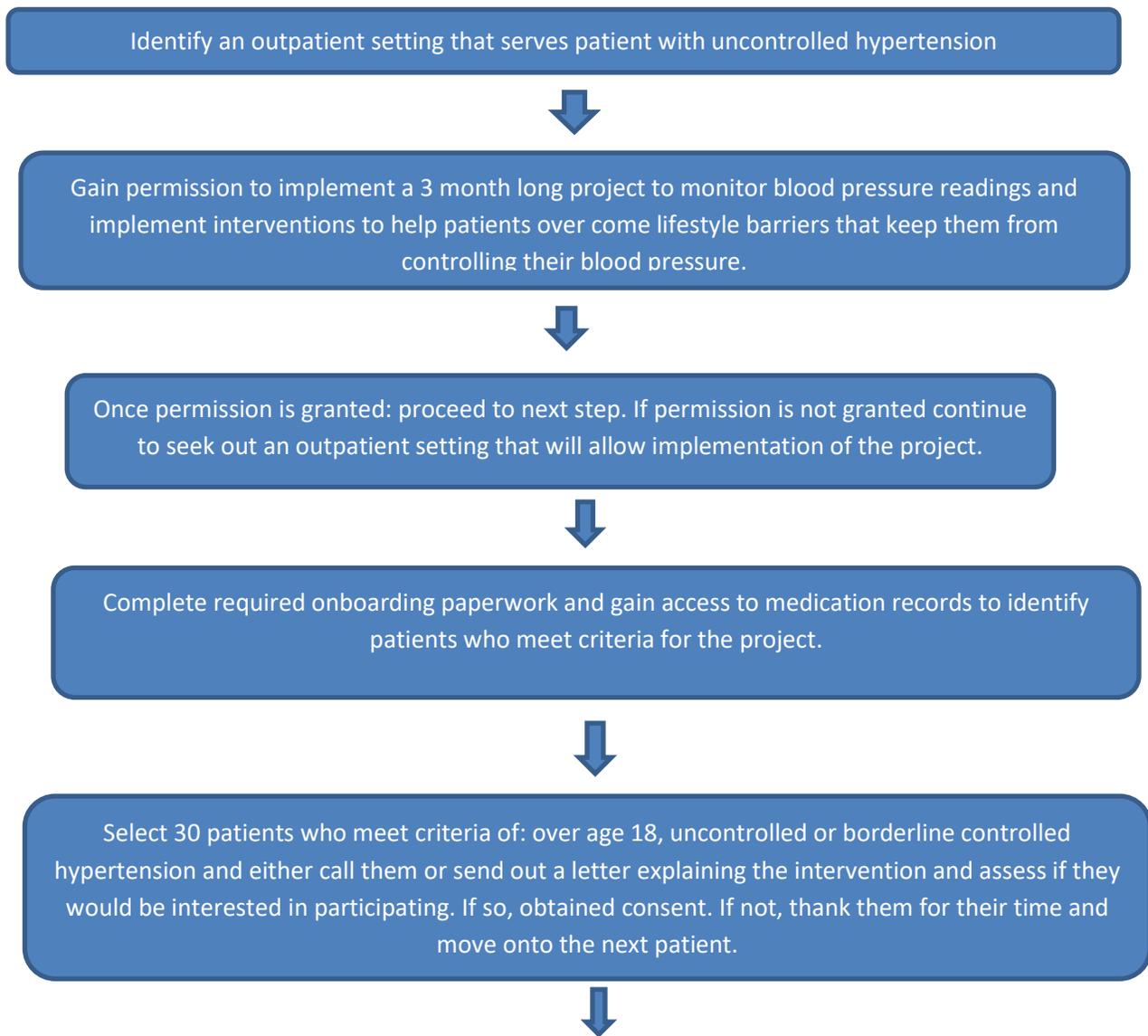
Phase IV: This phase is very important and is dependent on the findings of Phase III. If the intervention is proved to be successful there will be a reduction of blood pressure. If not, this phase is where changes and adjustments will be made to the plan.

Providing the best and safest care to patients is so important. Patients have the right to receive competent care. Using evidenced based care in practice will enhance health care quality and improve patient's outcomes, reduce cost, and empower clinicians (Melnik & Fineout-Overholt, 2019, pp. 7–32). The inventions being used in my plan have been researched and are shown to be effective. Improving patients' outcomes and reducing morbidity and mortality of hypertension is crucial.

**Timetable/Flowchart**

**Flowchart with Timing Duration**

<b>Phase I</b>	<b>Phase II</b>	<b>Phase III</b>	<b>Phase IV</b>
Obtain consent & Education for participation <b>Dates:</b> September 1 <sup>st</sup> -7 <sup>th</sup>	Implementation of intervention & monitoring <b>Dates:</b> September 8 <sup>th</sup> -December 1 <sup>st</sup>	Evaluation & Follow up survey <b>Dates:</b> December 2 <sup>nd</sup> -December 6 <sup>th</sup>	Assessment and Adjustment <b>Dates:</b> December 7 <sup>th</sup> -11 <sup>th</sup>



Create a website that will allow videos to be created and uploaded for the participants to watch each week and a section that will allow them to enter their blood pressure readings. Once this step is complete proceed to Phase I of the plan



Phase I



Ensure that all required paperwork is obtained and that consents are obtained from willing participants. Making sure the website is created and flows well is important. Educating patients about the intervention is an important part of this step.

Phase II



Implementation is the cornerstone of this phase. Patient participation is a big component of this step. Monitoring the website during the time is important and making sure participants are not having difficulty using the website.

Phase III



This phase requires evaluation of the data. Gathering the data and analyzing it to see if the interventions were effective. This is the part of the project where you will either see a reduction in systolic or diastolic pressure, increase or no change. This is an important phase as it will determine if the interventions were successful.

Phase IV



This is the analyzing phase where you will review the results and formulate a plan on how to move forward. If the intervention was successful figure out ways that will make it even better. If it was not successful strategize ways that will better the intervention so that successful outcomes can be seen. This will allow evidence based practice to be implemented.

### **Data Collection Methods**

Data collection for the benchmark project will take place by using modern technology. Patients will upload their daily blood pressure reading onto a website that allows for easy tracking and storing of data. This will have been successful if patients are able to enter their blood pressure readings each day effectively and efficiently. They will also have to log on and watch daily videos on how to overcome lifestyle barriers via educational videos. This will also be monitored and tracked to assess how many patients participated in watching the educational videos.

### **Cost/Benefit Discussion**

Hypertension is one of the leading preventable causes of death. According to Zhang et al. (2017), annual expenditures associated with hypertension has increased significantly from \$58.7 billion to 109.1 billion due to the increase in the number of people treated for hypertension from 2000-2013. This negatively impacts the financial side of healthcare leading to more emergency room visits and increased funds going to cover preventable adverse health outcomes. The implementation of this benchmark project has the potential to lessen the burden on the healthcare systems in many ways. Reducing the amount of emergency room visits due to uncontrolled hypertension. There would not be a lot of cost to implement this project. There are many website builder applications that are less than one hundred dollars to have a functioning professional website to have patients enter data. Educational videos can also be uploaded for free to this website using YouTube. The biggest resource needed for this project would be time. The staff and personnel would already be in place. Taking the time to educate and properly ensure

understanding on the staff part. The patient must be willing to gain education and knowledge to help them live a healthier life.

### **Discussion of Results**

This was unable to be implanted due to the restraints COVID has placed upon the healthcare field. However, if this project were to have been implemented the results would be analyzed and if there were reductions in systolic and or diastolic blood pressure then the project would have been successful. However, if this project would have been implemented, I would have expected great results. The interventions within this project have the potential to affect patients in a positive way. If a patient is willing to change their behaviors and incorporate positive lifestyle interventions, then the percentage of this project being effective dramatically increases. When patients have proper education and understanding of a disease process along with the ability and willingness to learn and change the chance for positive outcomes significantly increases.

### **Conclusions/Recommendations**

Daily life can be busy and challenging. Patients who struggle to overcome the lifestyle barriers to hypertension often need extra encouragement and assistance. Incorporating educational interventions to help those patients overcome the barriers to uncontrolled hypertension can positively reduce the morbidity and mortality associated with this preventable disease. Implementing evidenced based projects has the potential to positively impact the struggles patients with hypertension face. Creating an environment of creativity and problem solving are key attributes to change the future of healthcare.

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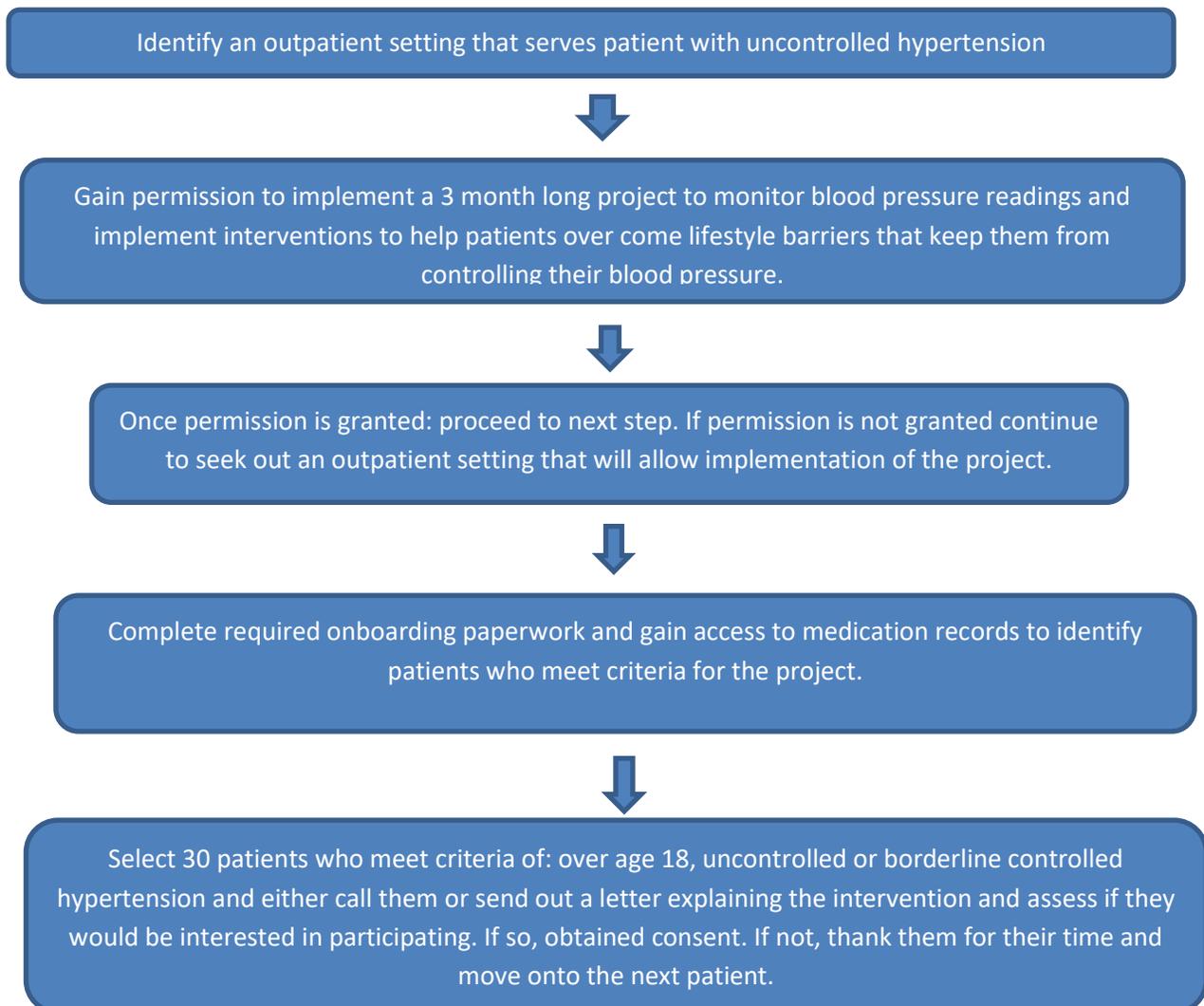
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Appendix A

Flowchart

**Flowchart with Timing Duration**

Phase I	Phase II	Phase III	Phase IV
Obtain consent & Education for participation <b>Dates:</b> September 1 <sup>st</sup> -7 <sup>th</sup>	Implementation of intervention & monitoring <b>Dates:</b> September 8 <sup>th</sup> -December 1 <sup>st</sup>	Evaluation & Follow up survey <b>Dates:</b> December 2 <sup>nd</sup> -December 6 <sup>th</sup>	Assessment and Adjustment <b>Dates:</b> December 7 <sup>th</sup> -11 <sup>th</sup>





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Phase II



Implementation is the cornerstone of this phase. Patient participation is a big component of this step. Monitoring the website during the time is important and making sure participants are not having difficulty using the website.

Phase III



This phase requires evaluation of the data. Gathering the data and analyzing it to see if the interventions were effective. This is the part of the project were you will either see a reduction in systolic or diastolic pressure, increase or no change. This is an important phase as it will determine if the interventions were successful.

Phase IV



This is the analyzing phase were you will review the results and formulate a plan on how to move forward. If the intervention was successful figure out ways that will make it even better. If it was not successful strategize ways that will better the intervention so that successful out comes can be seen. This will allow evidence based practice to be implemented.

