STAC

Staying Healthy After Childbirth

Operational Handbook

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This program's operational handbook was developed in conjunction with the University of Wisconsin - Madison Institute for Clinical and Translational Research (ICTR) Dissemination & Implementation Launchpad™

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Note that this handbook uses the terms "woman," "women," "mother," and female gendered pronouns, "she" and "her." However, this handbook is intended to apply to care of all birth parents experiencing post-partum hypertension.

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STAC
Staying Healthy After Childbirth

PURPOSE OF HANDBOOK

This handbook has been developed for hospitals and health systems who are interested in implementing the Staying Healthy After Childbirth (STAC) program. There are many benefits to this program from both the healthcare and patient perspective, and there has been demonstrated efficacy in the ability to reduce postpartum readmissions due to hypertension. The toolkit describes the program, provides implementation guidance, and includes appendices and resources that can be customized for your institution.

INTRODUCTION

Staying Healthy After Childbirth (STAC) is an evidence-based remote patient monitoring (RPM) program that helps new mothers safely monitor and treat their high blood pressure from the comfort of their home with guidance and support from health professionals.

Remote patient monitoring is a technology to enable monitoring of patients outside of conventional clinical settings, such as in the home or in a remote area. RPM facilitates these goals by delivering care through telecommunications. The diverse applications of RPM lead to numerous variations of RPM technology architecture. However, most RPM technologies follow a general architecture that consists of the following components.

1. Sensors on a device that are enabled by wireless communications to measure physiological parameters.
2. Sensors can connect back to a central database using WiFi or cellular communication protocols, depending on the manufacturer.
3. Local data storage at patients' site that interfaces between sensors and other centralized data repository and/or healthcare providers.
4. Centralized repository to store data sent from sensors, local data storage, diagnostic applications, and/or healthcare providers.
5. Diagnostic application software that develops treatment recommendations and intervention alerts based on the analysis of collected data.

Depending on the disease and the parameters that are monitored, different combinations of sensors, storage, and applications may be deployed. In our program, we monitor blood pressure and heart rate using a Blue Tooth compatible blood pressure monitor and a tablet

device. Together, those allow for immediate transmission of home blood pressures to our central data monitoring platform.

Women who use this program are much more likely to detect and treat elevations in their blood pressure early on, thereby preventing trips back to the provider's office and reducing readmission to the hospital. This allows new mothers to have more time at home with their new baby. Implementation of the STAC program also has shown to decrease hospital readmissions while caring for women with postpartum hypertension disorders remotely, which effectively reduces medical costs.

Keep Patients Healthy

Reduce Hospitalizations & Readmissions

Improve Quality of Life

Reduce Healthcare Costs

THE NEED

Hypertensive disorders are a common complication of pregnancy, and contribute to increased cardiovascular morbidity and mortality, especially for non-Hispanic black women. In 2018, approximately **10.8%, or 400,000**, of the 3.79 million women giving birth in the United States had high blood pressure.[1] Hypertension disorders of pregnancy are diverse and range from: (1) Underlying preexisting chronic hypertension, (2) Gestational or pregnancy related hypertension that is expected to resolve after pregnancy, and (3) Preeclampsia that may be mild to severe. [2,3] The rate of **preeclampsia in the US has increased 25% in the last two decades**.[2] Most women with preeclampsia will deliver healthy babies and fully recover. However, some women will experience complications, several of which may be life-threatening to mother and/or baby. A woman's condition can progress and become severe very quickly.

Hypertensive disorders are the leading cause of postpartum hospital readmission.[4,5] When new mothers are readmitted to the hospital, they are separated from their babies and families. This separation is disruptive to breastfeeding, maternal-infant bonding, and the entire family unit.

These preventable admissions are associated with an **annual excess of $36,550,000** in direct inpatient medical costs.[6]

The United States has the highest maternal mortality rate in the developed world, and it is getting worse. It is estimated that for every preeclampsia-related death that occurs in the United States, there are approximately 50-100 women experiencing "near miss" maternal morbidities that stop short of death but contribute significantly to health risk and health care cost.[7] Additionally, maternal deaths that occur postpartum are most commonly related to high blood pressure and cardiovascular disorders.[8]

The current standard of care is to monitor blood pressure at early postpartum follow-up visits within 72 hours and at 7-10 days after delivery.[9] Unfortunately, **50-70% of women do not/are not able to follow-up for postpartum care**.[9] This rate is even lower among populations with limited resources, further contributing to health disparities. Pregnancy related hypertension is often quiescent immediately after birth, but often worsens after hospital discharge. This is likely multifactorial, however somewhat due to lack of awareness on the course blood pressures after birth. The STAC program addresses this gap in postpartum blood pressure monitoring and treatment because it was developed to care for women with any type of hypertension that affected them during their pregnancy and/or postpartum.

THE RESEARCH

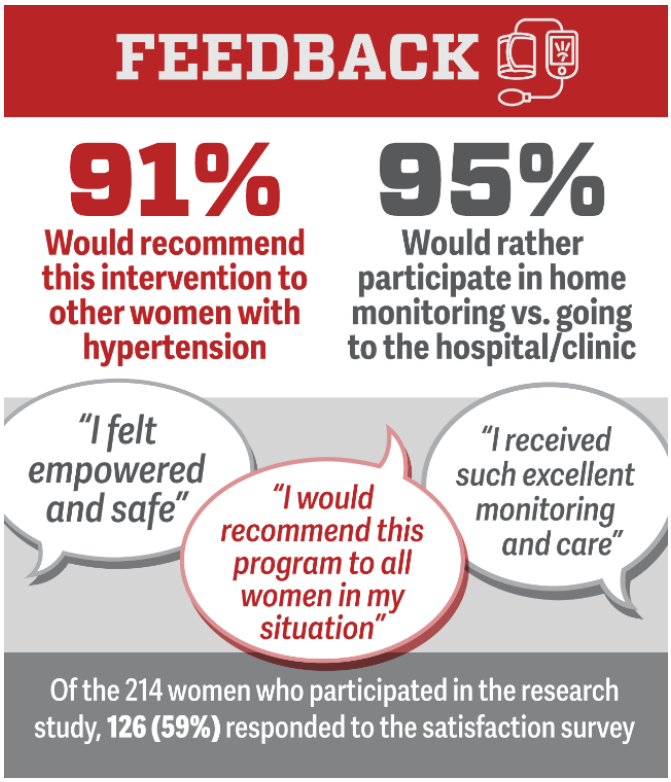
The STAC program was tested in a non-randomized controlled trial with remote patient monitoring for postpartum hypertension compared to standard outpatient postpartum care at a single academic center and resulted in significantly reduced hospital readmission compared to standard care.[10]

Our study results demonstrated that the remote patient monitoring group experienced a **significant decrease in hypertension related readmission** (0.5% versus the control group 3.7%, adjusted relative risk 0.12; 95% confidence interval, 0.01-0.96). The

Outpatient outcomes in telehealth vs standard outpatient care participants

	TELEHEALTH (n=214)	STANDARD OUTPATIENT (n=214)
Hypertension related readmissions, n (%) (p value = 0.037)	1 (0.5%)	8 (3.7%)
Number of blood pressures reviewed within 10 days, n (%) (p value = <0.001)	202 (94.4%)	129 (60.3%)

number needed to treat to prevent one readmission using remote patient monitoring is 30.5 (95% [CI 29.7-31.5]).[10]



Among intervention participants, 116 (54.2%) experienced an increase in postpartum hypertension requiring treatment (systolic ≥ 150mm Hg or diastolic ≥ 100 mg Hg) after discharge with a median (IQR) post-discharge day 6.0 (5.0-9.0).[10]

In addition, previous participants of our program have been highly satisfied. Many women would rather participate in a home blood pressure monitoring program rather than going to an in person visit in the hospital or clinic after discharge. The majority of women would recommend this program to all women with hypertension during or after pregnancy.[11]

WHAT IS STAC?

PROGRAM OVERVIEW

STAC's team of providers (i.e. physicians, nurses, and enrollment coordinators/medical assistants) help keep mothers safe at home with any diagnosis of high blood pressure due to any hypertension related disorder during pregnancy (i.e. chronic, gestational, and any form/severity of preeclampsia). The program was designed to obtain daily blood pressures on women for 6 weeks to align with the postpartum visit, however some women may be able to end by 14-30 days depending on their clinical stability. This allows for initiation, titration, and cessation of medications specific to individual patient needs and eliminates the need for mothers to return to the clinic for blood pressure checks and decreasing the risk of needing to return to the hospital due to blood pressure. We have identified that at least 50% of women will have blood pressures exceeding the recommended threshold to initiate or increase antihypertensive medications after hospital discharge. The blood pressure increases are occurring prior to the recommended 7-10-day postpartum blood pressure follow-up that typically occurs in the outpatient clinic. (Figures 1 and 2) [12]

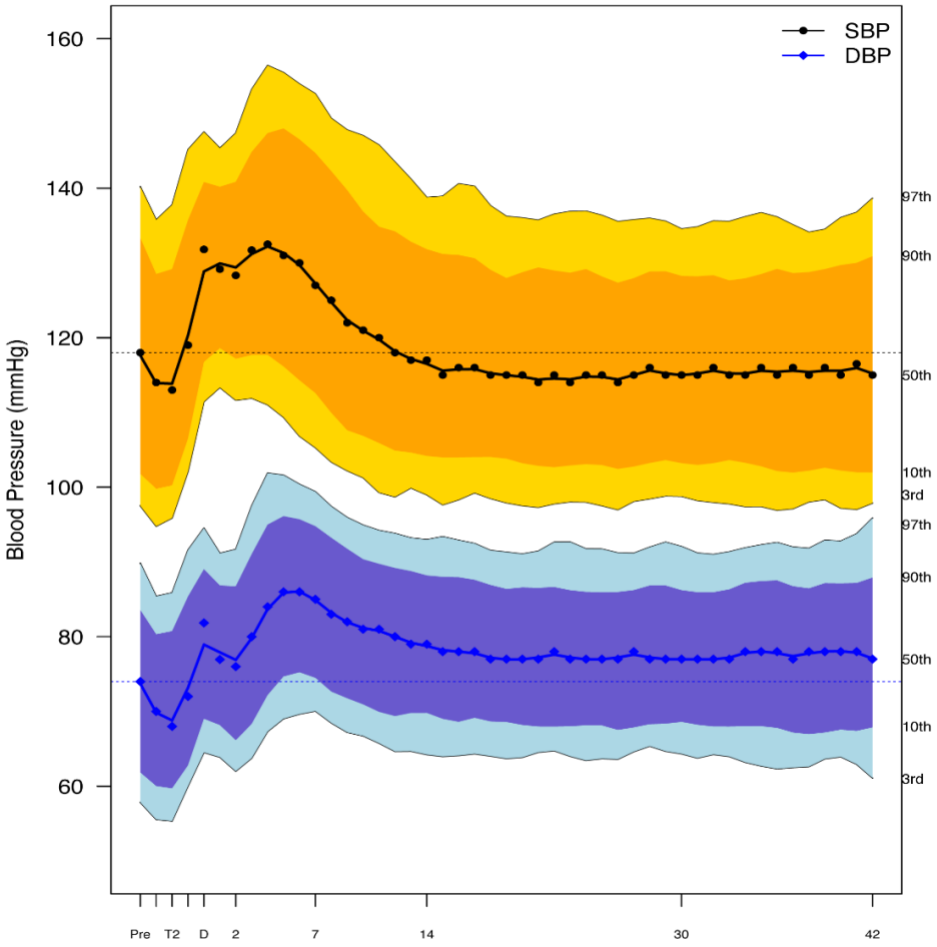


Figure 1. Blood pressure profiles (systolic (SBP) and diastolic (DBP) pre-pregnancy through 42 days postpartum. Blood pressures peak on day of delivery (D) and again typically after hospital discharge (postpartum days 3-7).[12]

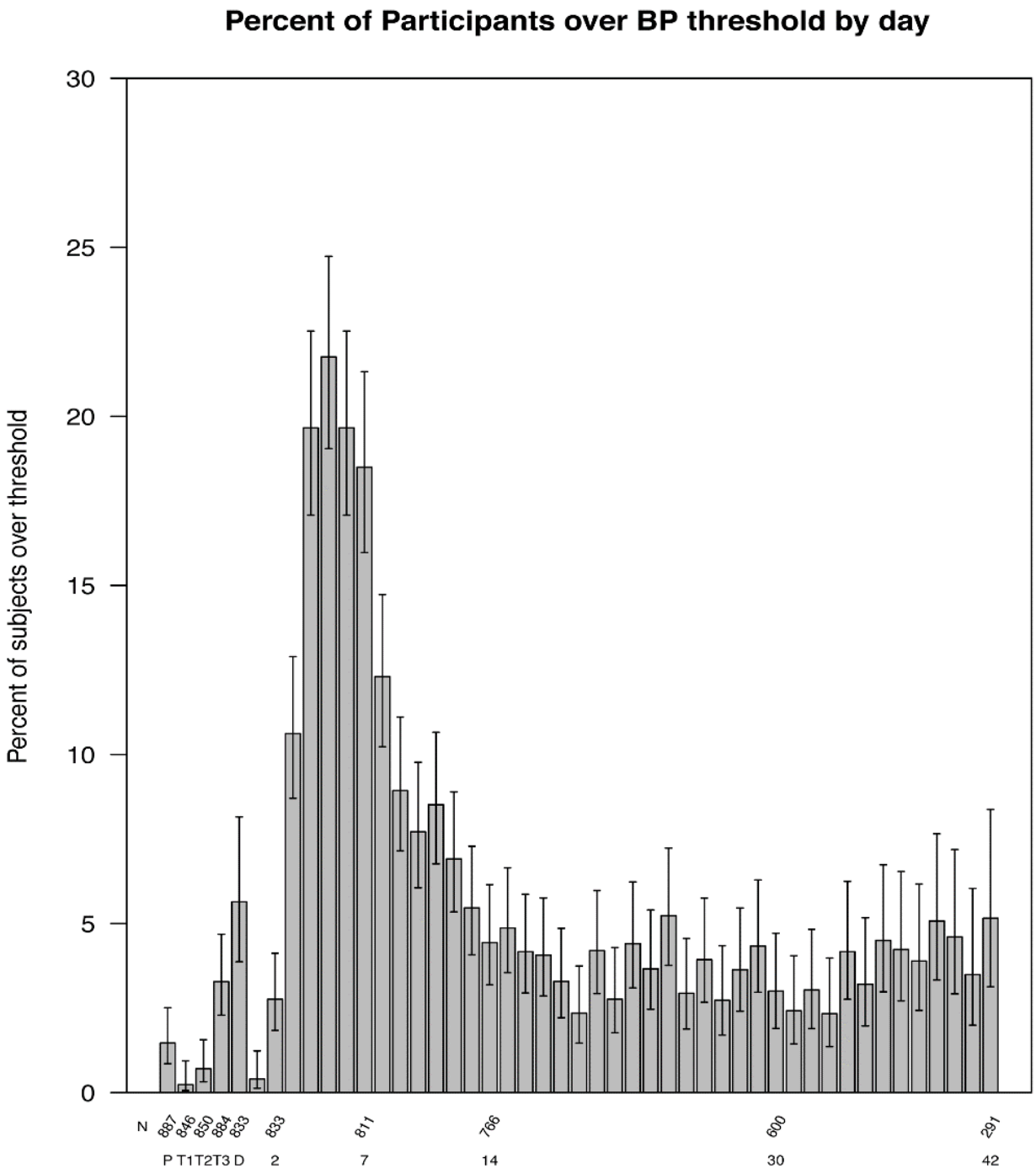
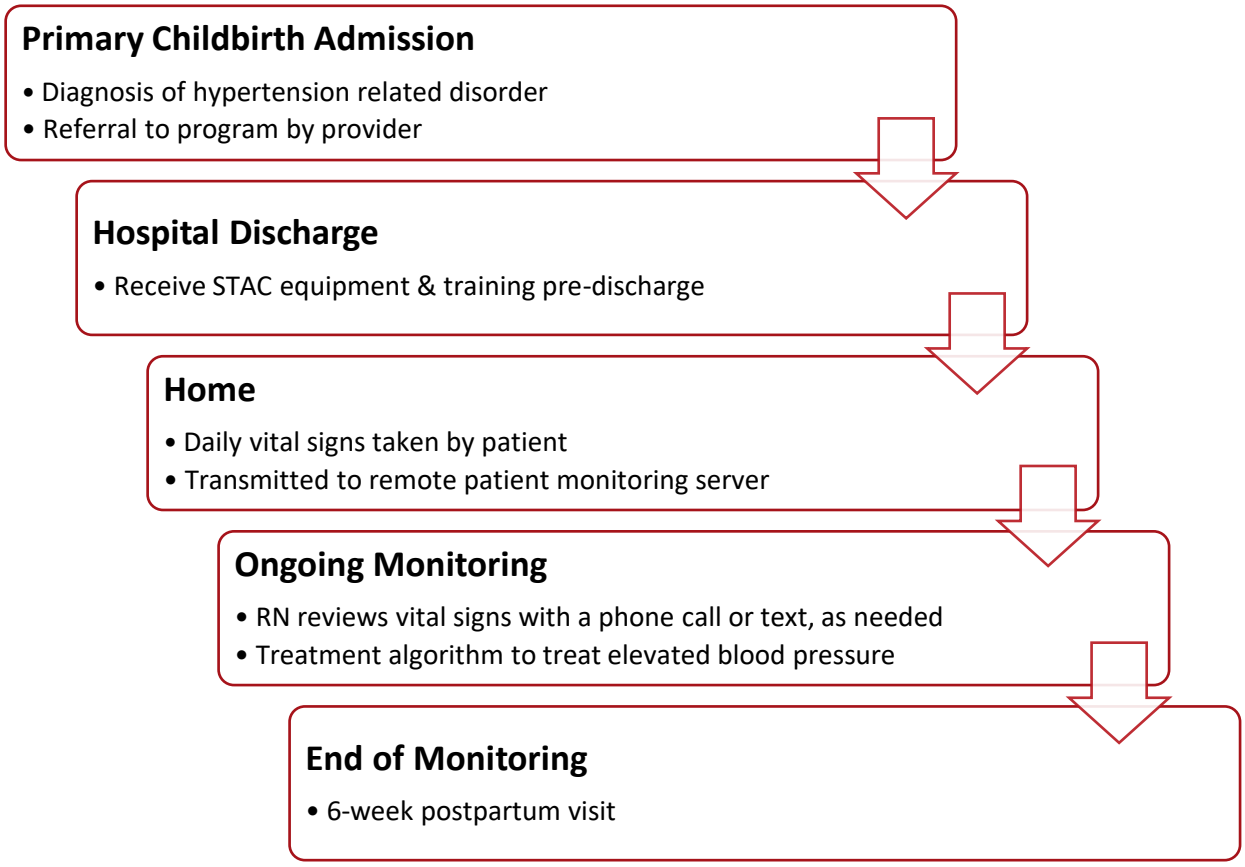


Figure 2. Percent of program participants with a blood pressure (BP) over threshold by postpartum day defined as BP ≥150/100 mmHg if not on antihypertensive medication or BP ≥140/90 mmHg if on antihypertensive medication. [12]

CORE ELEMENTS OF STAC



Daily Needs to Consider in Management of the Program

- Physician Leader(s)
  - Physician available for out of algorithm questions daily 8am-4pm
- Nursing Staff Recommendations
  - Equivalent of 1.0 RN staff per 100 patients for weekday coverage and additional 0.4 for weekend coverage
  - Consider dividing your total FTE by multiple people and keeping total hours worked by day to ensure maximal coverage
- Enrollment Staff Recommendations
  - Equivalent of 1.4 Medical Assistant for 7 days a week enrollment coverage
- Equipment Requirements (*Based on your RPM vender)
  - Remote Monitoring Program
  - 1 - Bluetooth enabled blood pressure machine per patient
  - 1 - Tablet or App connected device per patient
  - Software
  - Optional equipment: scale and pulse oximeter
- Equipment Return Services

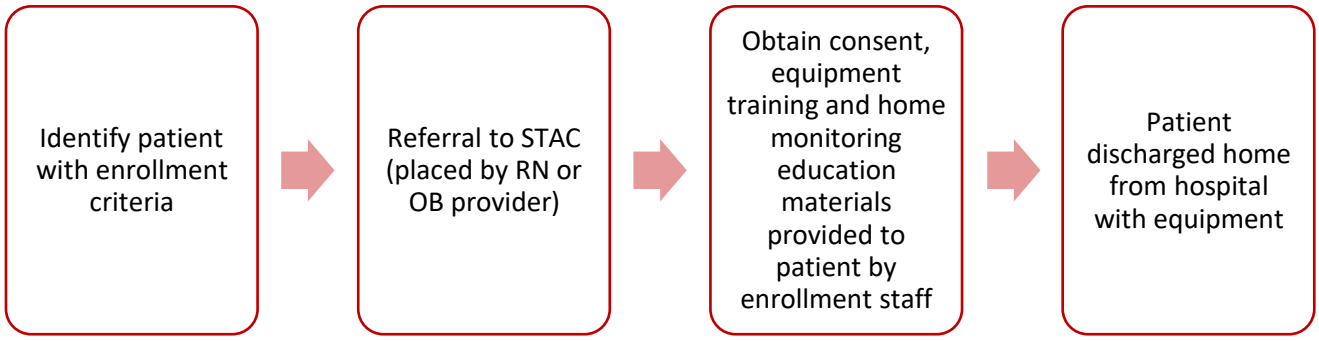
- Shipping service, such as FedEx
- Courier service to patient homes
- Patient drop-off to hospital or clinic
- Clinic return with courier service

Enrollment Criteria

- Any postpartum patient:
    - Over 13 years old
    - Has a hypertension-related diagnosis made in the antenatal and/or postpartum period
    - Speaks English, French, or Spanish (the tablet accommodates these languages)
    - Is within two weeks postpartum
    - Ability to communicate with STAC team daily over phone

Onboarding

Patients are enrolled prior to being discharged home from the hospital. We recommend a formal consent form be completed so patients can understand the purpose of the program, commit to track, and then return equipment as necessary. See appendix Section B for enrollment checklist and consent form template. Medical assistants, or other trained staff, educate patients on equipment use and proper technique for taking blood pressure at home. Communication between postpartum staff, providers, and STAC staff occur to ensure appropriate referrals. STAC staff enters patient information to create the interface between the electronic health record and remote monitoring program.



Patients are sent home with the blood pressure monitoring kit and instructed to take their blood pressure the next morning. Shortly after submitting vital signs, the STAC Registered Nurse calls the patient to discuss program outlook, methods of communication, and details of their hypertensive diagnosis and medications. In depth discussion and education of typical progression of blood pressures in the postpartum period, as well as signs and symptoms to report to STAC team, should be discussed during this call. Most communication is transmitted via text messaging going forward, as this has been found to be the preferred method of communication.

Daily Nurse Health Assessment and Cares

STAC Registered nurses provide health coaching and subsequently monitor daily for signs of worsening preeclampsia. Such signs include a severe headache, seeing spots or other visual changes, shortness of breath, pain in the upper right side of the abdomen, feeling nauseous or throwing up, or swelling into the hands or face. The algorithms for treatment are found in Section D of the Appendix. Please use these guidelines.

The following parameters are the suggested thresholds used to alert STAC Registered Nurses (the thresholds for notifications are customizable):

- Systolic blood pressure $\geq$ 140 or $\leq$ 100mmHg
- Diastolic blood pressure $\geq$ 90 or $\leq$ 59mmHg
- Heart Rate $\geq$ 100

Registered Nurses use algorithms referenced in the appendix and antihypertensive medication guides to prescribe medication per protocol for out-of-range blood pressures. Registered nurses are available to initiate, maintain, and decrease antihypertensive medications per protocol. Patient primary OB providers should allow management of blood pressures and possible preeclampsia symptoms to STAC team. The program provider is consulted for any patient that does not follow algorithm protocols. A list of special considerations is included in the appendix. The STAC team is responsible for all antihypertensive medication management, including refills, during the duration of the program.

Increased heart rates are evaluated for possible signs of infection, postpartum hemorrhage, or other etiologies. Patients are referred to their primary OB clinic for further evaluation that is out of the scope of hypertension.

Daily questions are deployed to patients via the tablet as programed and reviewed by the STAC RNs. For concerning responses, a STAC RN will contact the patient. This is customizable based on program needs. This will be set up during the onboarding of STAC.

Examples of questions that RNs respond to are:

- Do you need your nurse to contact you today?
- Are you having any dizziness?
- Are you feeling more depressed than last week?

    - Postpartum depression can be monitored with the PHQ9 or PHQ2.
- Have you stopped taking your blood pressure medication for any reason?

Communication between the STAC RN and primary OB clinic occurs if further follow up is needed for symptoms not related to hypertension. This can occur via phone call or electronic health record communication.

In the event a patient is recommended to visit the Emergency Department, full report is called and given to the assuming hospital.

Program Completion

6-Week Follow Up

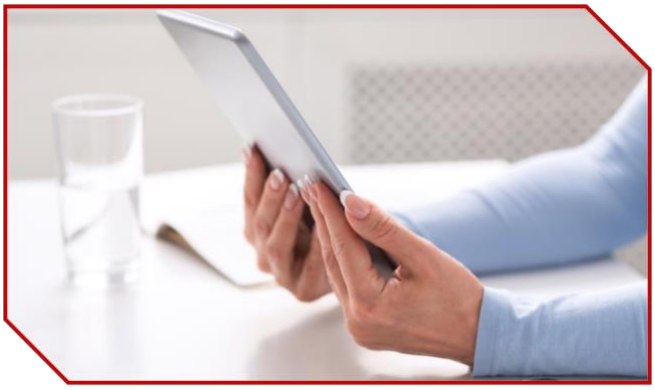
We recommend the patient receives a call around 5-weeks postpartum by the STAC RN to discuss program completion and equipment return. Patients are provided health coaching regarding future increased risk of developing preeclampsia with future pregnancies and future risk of developing chronic hypertension or other cardiovascular morbidities. If a patient remains on antihypertensive medications, the STAC RN will alert the primary OB clinic prior to the 6-week postpartum appointment. In addition, if there is unresolved hypertension and a patient remains on antihypertensive medication, a referral will be made to the appointed preferred local follow-up for persistent hypertension or preventative cardiac care (e.g. primary care provider, cardiologist). All hypertension management is transferred to primary care at 6-weeks postpartum.

During this phone call, patients are also instructed as to how to return equipment. This can include a courier service, clinic drop off, shipping service, or return to the hospital. Patients are sent a reminder the day of program completion to return equipment via the planned method.

The patient's primary OB provider will receive a summary report.

The summary should include:

- Any antihypertensive medications started, titrated, or discontinued during the duration of the program
- A listing of the most recent vital signs



See Appendix for Example Reports

CORE PROGRAM ROLES

Key Role	*Description*	*Responsibilities may include:*
STAC Program Manager*	Manages STAC program and is responsible for the program.	• Tracks key performance indicators (KPI) for RPM (remote patient monitoring) • Oversees program and reports to organizational leadership • Ensures policies and procedures are followed • Facilitates care collaboration and communication • Creates and operationalizes clinical care practices • Key contributor in the development of workflows and the STAC delivery model • Adds new users and manages Security Roles • Assists new users with troubleshooting and password management
STAC Direct Care Team (Physician(s) and/or Nurse Practitioners and RNs)⁺	Provides care management for the patient population(s) on RPM. Uses LifeStream Web and RPM to coordinates the patient's care plan.	• Proficient with the LifeStream application and Genesis Touch monitor • Coordinates care based upon remote patient monitoring trends and clinical assessments • Provides clinical interventions as needed • Communicates with care team and updates documentation to support the program KPI's • Maintains competency of equipment management and patient instruction.
Intake/Liaison Coordinator*⁺	Identifies appropriate referrals for STAC program.	• Reviews incoming referrals to identify potential patients for the STAC program • Facilitates processes that support appropriate and timely monitor placement • Provides patient education about home blood pressure monitoring equipment • Distributes equipment to patients
Inventory Manager*⁺	Maintains and manages inventory and equipment.	• Maintains and tracks RPM devices and peripherals • Coordinates processes for installation and de-installation • Follows established equipment policy and procedures • Cleans and stores equipment between use • Contacts Resideo for replacement or return of equipment
Technology Administrator⁺	Responsible for STAC platform and user management.	• Responsible for LifeStream platform implementation and management, and knowledgeable about the system requirements • Coordinates interface dialog between EMR software company and Resideo (if applicable) • Coordinates LifeStream upgrades (if applicable)
*The same person may do both roles ⁺Can be less than full time FTE See appendix for the complete list of roles		

STAC PROGRAM ACTION PLAN CHECKLISTS

EXPLORATION

Identifying the need for a program like STAC is the first step in the implementation process.

ESTABLISHING READINESS

The following checklist will help you identify if your institution is ready to implement STAC, create buy-in from key stakeholders and identify potential barriers and facilitators to implementation.

PREPARATION

Timeline: 3-6 Months

During this phase, you will assemble an implementation team comprised of key stakeholders. Ideal team members will have real-world experience with the problem and target population and be influential leaders among their peers. Regular team meetings are held during this phase to develop your training and implementation plan, refine intervention processes and materials, and plan your pilot test.

IMPLEMENTATION

Timeline: 1 Month

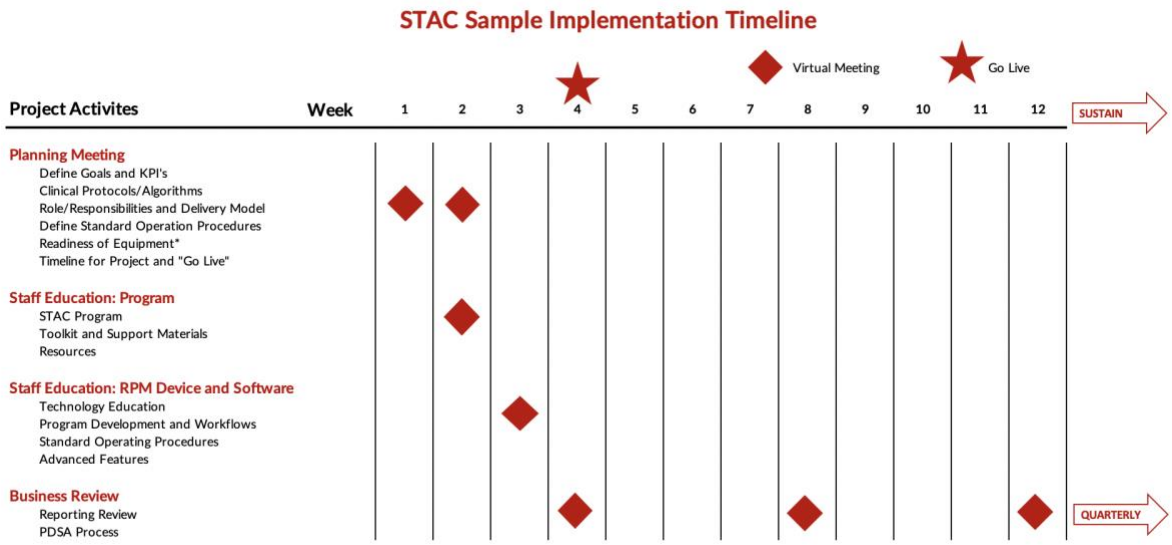
During the Implementation phase, you'll start using STAC for the first time. It's very important to continuously monitor the implementation and identify and respond to implementation barriers. Effective training and technical assistance are essential, and you'll need to monitor the implementation process and begin to measure your process and patient outcomes. It's important to communicate your results with your team and other stakeholders.

SUSTAINABILITY

Timeline: 12 Months+

By this stage, you've reached full implementation. STAC is an accepted program within your institution and integrated into your workflow. The goal is to sustain the program and maintain quality and impact. It is important to continue to apply your continuous quality improvement processes, ensuring your data remain relevant and useful and use relevant implementation strategies to ensure consistent quality of implementation and make adaptations as needed. It is important to celebrate your successes.

See Appendix for Action Plan Checklists



TRAINING CURRICULUM

The training curriculum includes the following areas.

Staff Education - Program

- STAC Program
    - Hypertension & preeclampsia education
    - Strategies and resources for providing effective Patient communication and Education (see example scripts and link to training video in appendix).
- Toolkit and Support Materials (i.e. treatment algorithms, documentation templates)
    - Resources

Staff Education - RPM Device and Software

- Technology education
- Program Development & workflows
- Standard Operating Procedures
- Advanced features

THE STAC TREATMENT ALGORITHMS

We recommend the STAC providers use standard algorithms to prescribe, titrate, and discontinue antihypertensive medication allowing for standardization of care for these basic clinical care scenarios (see appendix: ***sample algorithms and medication table as a reference to daily patient management).***

1. When to start antihypertensive medications and which medications to use for outpatients who were not discharged on medication.
2. Up titration of antihypertensive medications for patients who were discharged on medications.
3. Down titration of antihypertensive medications once blood pressures have normalized or the patient is hypotensive.

Some patient care situations may fall outside the standard algorithms, requiring consultation with the supervising physician. In addition, we have listed special considerations that may guide decisions for more complicated care situations.

- When starting and adjusting medication, wait until next day to have patient recheck blood pressure.
    - If a patient is asked to check an evening blood pressure, make sure you have a plan on what they should do if their blood pressure is not at the goal desired, i.e., take another medication, higher dose, etc. Otherwise, if a plan is not in place, it may influence the patient outcome and increase unplanned utilization of the emergency room.
- Consult STAC physician if SBP is ≥160 or DBP is ≥110 mmHg (outpatient treatment options may include one of the following two options)
    1. More than one antihypertensive medication may be prescribed
        i. Calcium channel blocker (Nifedipine or Amlodipine with Hydrochlorothiazide) (see appendix)
    2. Use of Nifedipine 10mg IR x1 with initiation of Nifedipine 30XL for immediate and sustained control of blood pressure (take both at the same time).

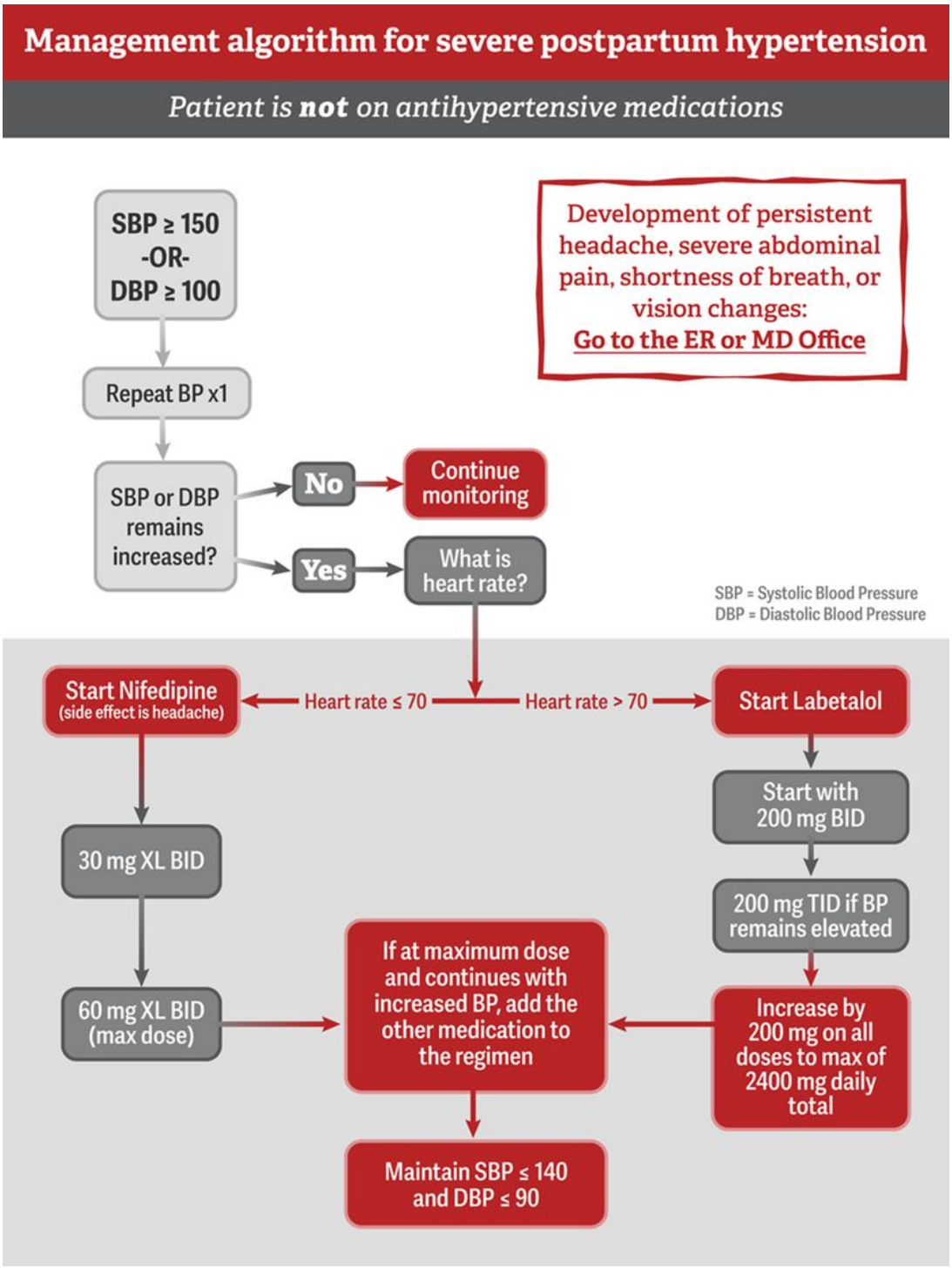
- Alternate medication choices:
    - Chronic Kidney Disease/proteinuria (preference for calcium channel blocker or ace inhibitor).

- Peripartum cardiomyopathy/heart failure (ace inhibitor or angiotension receptor blocker with beta-blocker)
- Edema- avoid calcium channel blockers and consider hydrochlorothiazide/diuretic
- Reynaud's syndrome: Do not use beta-blockers but use a vasodilator (ex. Nifedipine)
- Asthma: avoid beta-blockers
- Chronic hypertension: first-line agents for long-term control include ace-inhibitor or calcium channel blocker (ensure a good birth control plan if on an ace-inhibitor
- Goal is to NOT titrate off medications by 6-week postpartum appointment
    - Consider pre-pregnancy medications if antihypertensive medications are prescribed
    - Consider using a Calcium channel blocker as first line and avoiding Beta Blocker medications with Black women - consult provider for alternative treatment, if needed.
    -

The STAC treatment algorithms were designed with the American College of Obstetrics and Gynecology (ACOG)'s recommendations for first-line treatment of hypertension disorders of pregnancy. We acknowledge these algorithms may not apply to all populations. Please, use at your discretion/as appropriate for your patients.

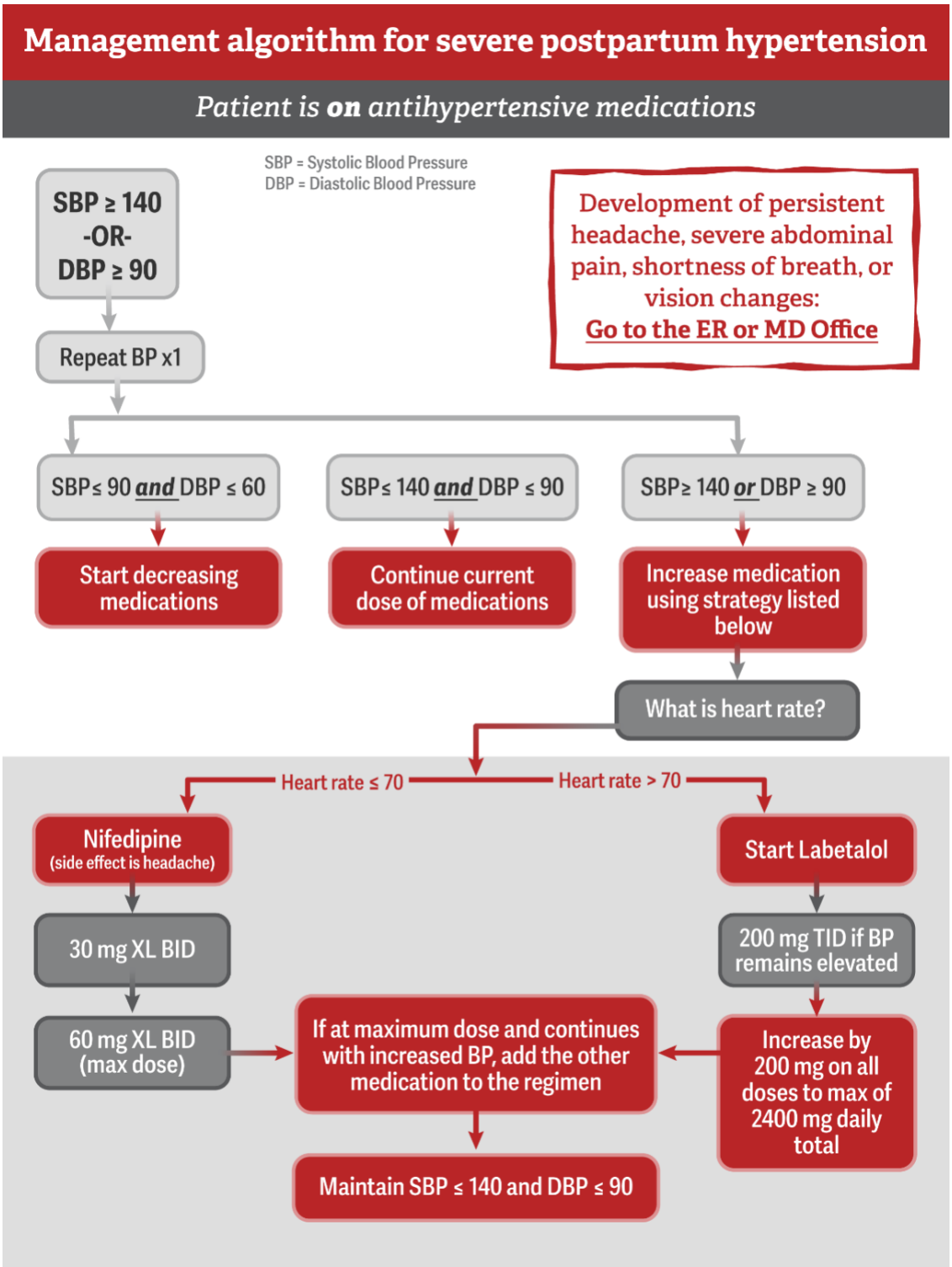
Algorithm 1: Antihypertensive Medication Algorithm

Use this algorithm if patient is not currently on blood pressure and persistently having SBP ≥ 150 or DBP ≥ 90. Consult the provider if patient falls into a category listed in the Special Considerations. Encourage patient to not check blood pressure until next day (one hour after morning dose) when starting antihypertensive medication.



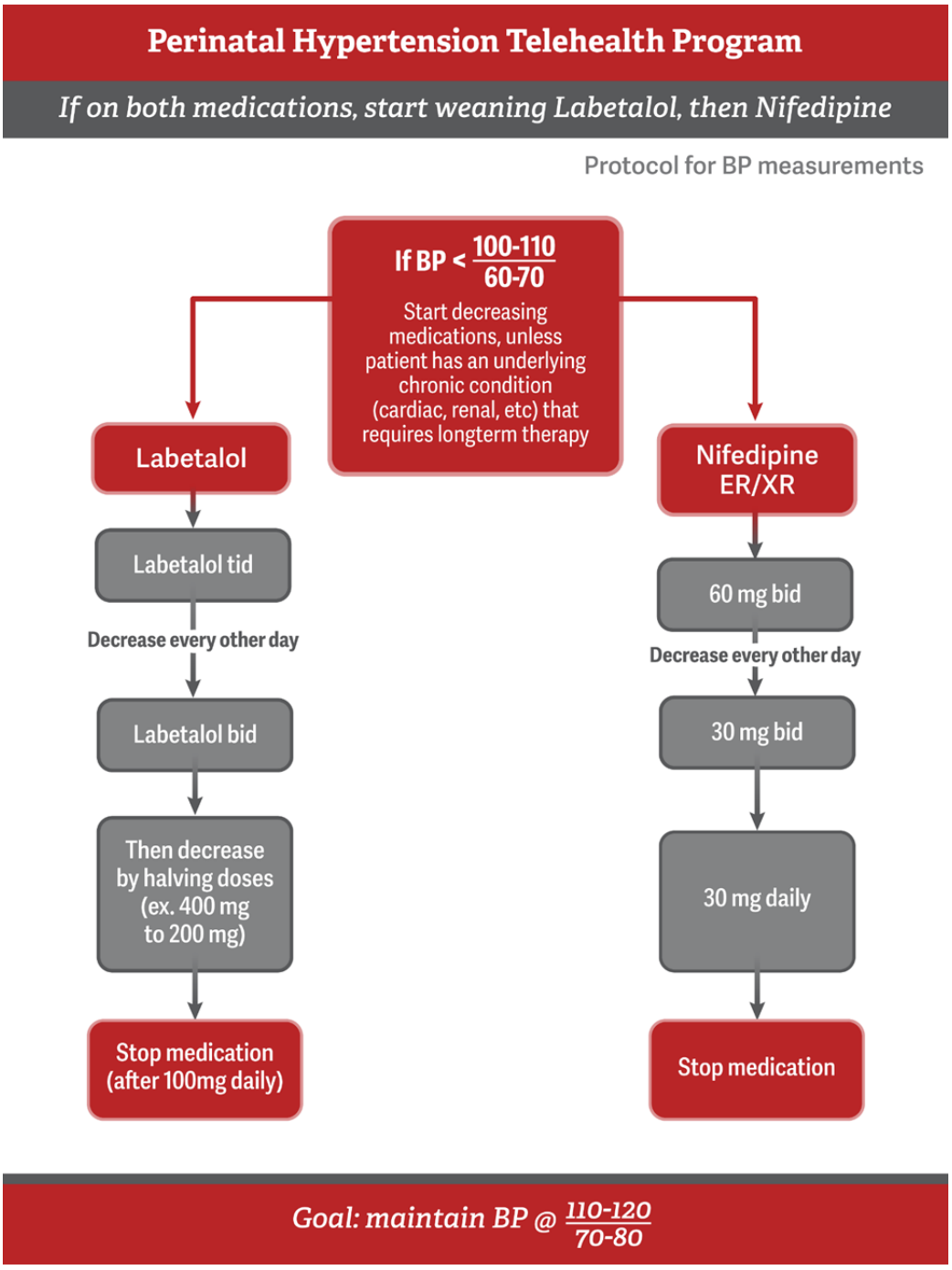
Algorithm 2: Antihypertensive Medication Up Titration Algorithm

Use this algorithm if patient is currently on antihypertensive medication with a SBP ≥ 140 or DBP ≥ 90.



Algorithm 3: Antihypertensive Medication Down Titration Algorithm

Use this algorithm when a patient is at least 2 weeks postpartum and consistently having blood pressures <110s/70s for multiple days in a row. Titrate medications down every 2-3 days if blood pressures stay 110s/70s. The goal for Chronic Hypertension patients is to not discontinue medications and titrate slower, if needed. Consider reverting to pre-pregnancy antihypertensive medication regimen. If titration occurs to quickly, rebound hypertension can occur.



PROPER TECHNIQUES

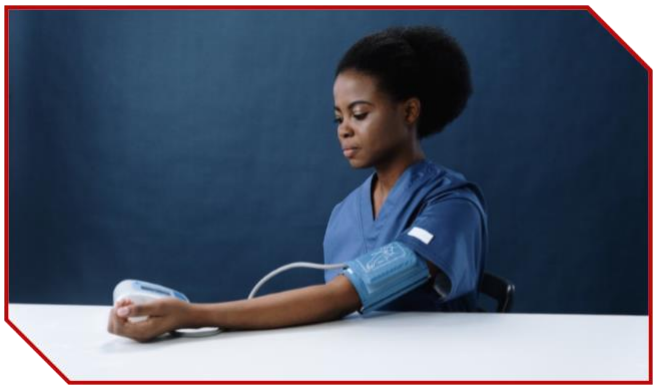
Measuring Blood Pressure

When blood pressure is high for an extended time period, it can cause problems like stroke and organ damage. Most recent national guidelines suggest that the most accurate way to take your blood pressure is at home in your own environment.

One of the most important aspects of the program is the patient taking their blood pressure correctly to ensure an accurate reading. Prior to going home from the hospital, one of the program's medical assistants or staff members will teach the patient how to correctly take their blood pressure. The upper arm will be measured, so the correct size of blood pressure cuff is sent home.

To see a video demonstrating proper technique, visit **www.obgyn.wisc.edu/stac/resources**

Cuff Size Matters



An appropriate-sized cuff (e.g., one with a length 1.5 times the upper arm circumference or a cuff with a bladder that encircles at least 80% of the arm and a width of at least 40% of arm circumference) positioned at the level of the heart to ensure accurate readings should be used. Please refer to each manufacturers cuff size based on arm circumference.

Suggestions for Best Practice

- Blood pressure cuffs that are too small will result in an overestimation of actual blood pressure, and an unsupported back, crossed legs, or unsupported arm can cause small overestimations as well.
- If blood pressure must be taken in a recumbent position, the patient should be placed in a left lateral decubitus position and the cuff should be at the level of the right atrium
- The blood pressure levels that meet the definition criteria should be documented on repeat readings only after the patient has rested (preferably for 10 minutes or more) and is seated with legs uncrossed and back supported. No caffeine or tobacco should have been used for at least 30 minutes before measurement, because these can temporarily elevate blood pressure.

See Appendix for:

- Patient Education Sheet
- RX Training Plan
- Enrollment Staff Training Plan

APPENDIX

SECTION A: PROGRAM OVERVIEW

- Overall Program workflow
- Exploration, Establishing Readiness, Preparation, Implementation, Sustainability Checklists
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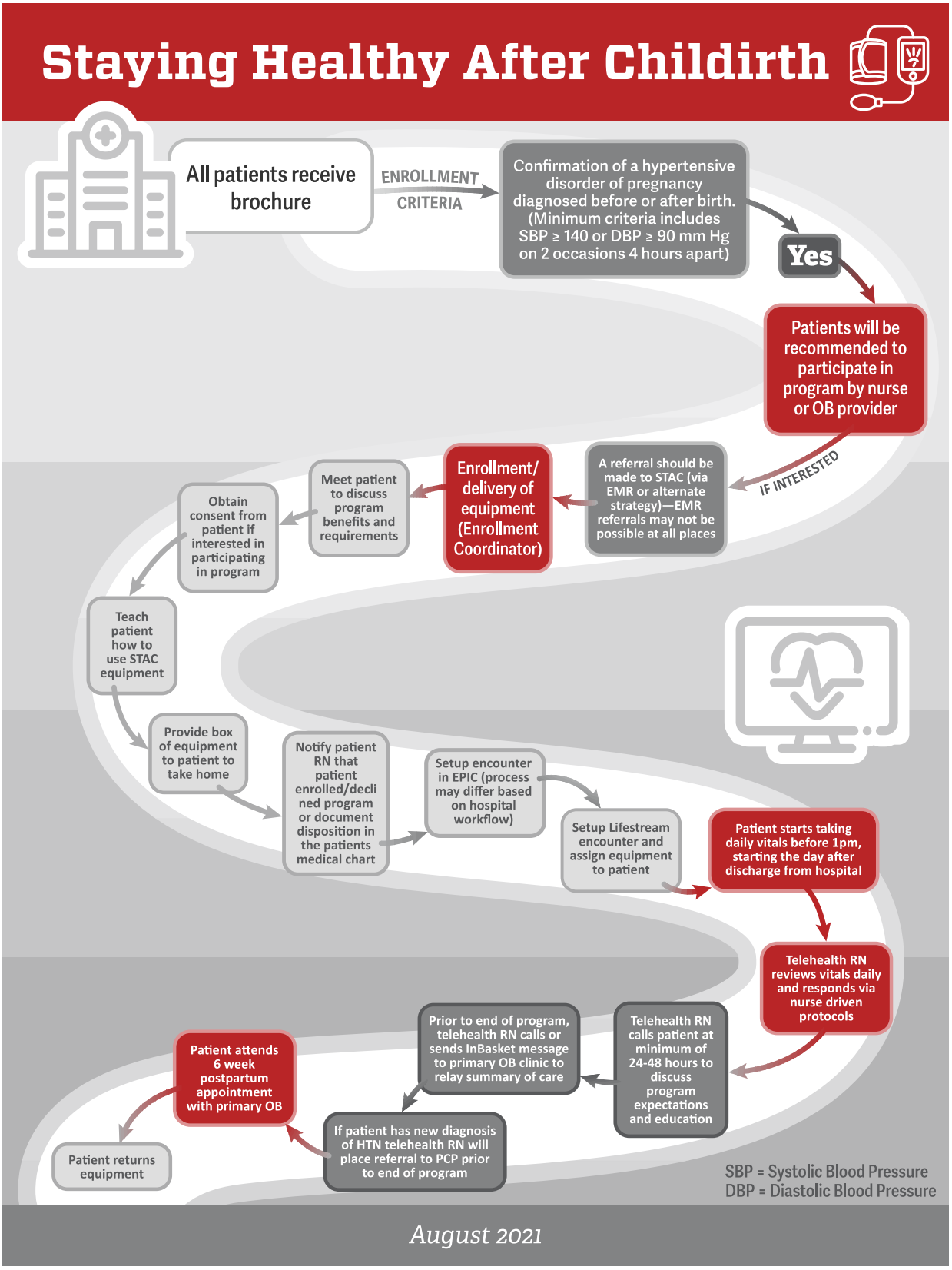
SECTION E: OTHER

- Brochures
- 1-pager patient flyers and hospital flyers
- Video links
- Logos
- STAC Website Link

Section A: Program Overview

Overall Program Flow Chart



Exploration, Establishing Readiness, Preparation, Implementation, Sustainability Checklists

STAC
Staying Healthy After Childbirth

Exploration Questionnaire

	Question	Response	Comments (be specific)
Determine Concern/Problem: Postpartum Hypertension and Readmission			
1	Do you know how many women in your hospital delivered and also had a hypertension diagnosis before or after delivery in the last year?	◯ Yes ◯ No ◯ Uncertain	
2	Do you know the readmission rate for postpartum patients with hypertension? Was the readmission rate over 2%?	◯ Yes ◯ No ◯ Uncertain	
Institutional Buy-In			
3	Do you have or are you able to recruit a physician champion?	◯ Yes ◯ No ◯ Uncertain	
4	Do you have leadership support?	◯ Yes ◯ No ◯ Uncertain	
Resources for Remote Monitoring Program			
5	Do you have access to funds, or can you secure funds, for initiation and sustainment of this program? E.g. institutional funds, foundational funds, grants, etc.	◯ Yes ◯ No ◯ Uncertain	

Link to .pdf of Exploration Checklist:
https://uwmadison.box.com/s/t2axhghhpzbml3pjacvhuzkbkm0xwys4

Page 1 of 1

Establishing Readiness Checklist (1 to 3 months)

	Question	Response	Comments (be specific)
Determine Concern/Problem: Postpartum Hypertension and Readmission*			
1	Number of patients delivering at your hospital		
2	Number patients delivering at your institution diagnosed with hypertension		
3	Rate of hypertension deliveries (%)		
4	Total readmission rate (all causes) (%)		
5	Hypertension-related hospital readmissions rate (%)		
6	Total number "extra" postpartum clinic visits required due to hypertension follow-up needs		
7	Total number of ER / urgent care visits due to hypertension		

* These data are what the STAC team recommends to collect; however, include all data that are relevant to your hospital / system

⁺ This will vary by institution

Institutional Support and Buy-in			
8	Does your hospital administration / leadership place a priority on improved quality in the management of postpartum hypertension?	◯ Yes ◯ No ◯ Uncertain	
9	Does your hospital administration / leadership have a quality improvement initiative to reduce hospital readmissions?	◯ Yes ◯ No ◯ Uncertain	
10	Do local providers feel there is a need or perceived benefit of this care model for their patients?	◯ Yes ◯ No ◯ Uncertain	
10a	Would those providers be willing to allow for their patients to receive care from a dedicated team providing this service?	◯ Yes ◯ No ◯ Uncertain	
11	Identify your Physician Champion / Leader		
12	Identify the key support and decision makers (Suggested: lead physician, nursing leadership, hospital clinical operations, or leadership)	Name: Name: Name:	
13	Set up initial meeting with key support and decision makers to discuss the program	Date mm / dd / year Time AM/PM hh : mm	

Resources for Remote Monitoring Program (Telemedicine)			
14	Does remote patient monitoring already exist at your institution?	◯ Yes ◯ No ◯ Uncertain	
14a	If yes, what is the telemedicine platform / vendor that your institution uses?		
14b	If yes, are staff required to use the program / vendor your hospital utilizes, or could you implement STAC with a different platform/vendor?	◯ Yes ◯ No ◯ Uncertain	
14c	If yes, who manages the patients, program, and equipment?	Patients: Program: Equipment:	
14d	If yes, what biometric data (vital signs) and non-biometric data are collected?	Biometric: Non-biometric:	
14e	If remote patient monitoring does not already exist at your institution, is there interest from clinical personnel to develop and maintain a program?	◯ Yes ◯ No ◯ Uncertain	
15	Is there institutional support to fund a STAC team which includes a physician champion, a nurse, and an enroller?	◯ Yes ◯ No ◯ Uncertain	
16	Are there resources for clinical personnel to remain committed and dedicated to a program?	◯ Yes ◯ No ◯ Uncertain	
17	To support the new program, is there an information technology (IT) infrastructure and administrative support to create a new program?	◯ Yes ◯ No ◯ Uncertain	
18	Is there funding for equipment?	◯ Yes ◯ No ◯ Uncertain	
19	Is there funding for connectivity support?	◯ Yes ◯ No ◯ Uncertain	
20	If no, is there currently funding or could funding be secured at a later date?	◯ Yes ◯ No ◯ Uncertain	

Process			
21	What could prevent the program from being implemented (barriers)?		
22	What can be done to address the aforementioned barriers?		
23	Who will facilitate the implementation of this program?	Name: Name: Name:	
24	Who will fund the start-up of this service?	Name: Name: Name:	
25	Are you interested in billing for this service?*	◯ Yes ◯ No ◯ Uncertain	
25a	If yes, who in the billing office can assist with claims?	Name: Name: Name:	

Link to .pdf of Establishing Readiness:
https://uwmadison.box.com/s/ytk87ca0ycc8dpylr88zpesb4t5isu9m

Preparation (3 to 6 months)* Guided by Resideo and STAC team

	Activities	Response	Comments (be specific)
Identify Key Team Members to Implement STAC ^			
1	Identify Telehealth Program Manager (mid-level, nursing level supervisor / manager)	Name:	
2	Identify Teleheath Direct Care Team (Physician(s) and / or Nurse Practitioner and RNs)	Name: Name: Name:	
3	Identify Patient Intake / Enrollment Coordinator	Name:	
4	Identify Inventory Manager	Name:	
5	Identify Information Technology (IT) Administrator	Name:	
^ See full program role list in the toolkit appendix			

Procure Equipment and Set-up		Response	Comments (be specific)
6	Analyze remote patient monitoring equipment options for your program (i.e. purchase equipment, rent equipment, or bring your own device)	Complete: ☐	
7	Analyze connectivity options and select a plan (i.e. basic connectivity license +/- video license)	Complete: ☐	
8	Complete vendor agreement plan for equipment and connectivity	Complete: ☐	
9	Organize, order, and procure equipment (consider need based on patient volume and shrinkage of equipment)	Complete: ☐	
10	Set-up program referral / enrollment process, EHR build, and associated billing if relevant	Complete: ☐	
11	Procure laptops and / or desktop computers for staff	Complete: ☐	
12	Procure encrypted or secure way to contact patients (i.e. cell phones)	Complete: ☐	
13	Develop workspace	Complete: ☐	
14	Determine equipment management plan (where to store, inventory management, processing, cleaning, etc.)	Complete: ☐	
15	Develop equipment return method (e.g. pick-up, mailing address, box, shipping labels, etc.)	Complete: ☐	

Training		Response	Comments (be specific)
16	Equipment / software training (Resideo / LifeStream)	Date mm / dd / year Time AM/PM hh : mm	
17	Direct Care team trainings (STAC toolkit and EHR documentation)	Date mm / dd / year Time AM/PM hh : mm	
18	Patient enrollment and equipment management training	Date mm / dd / year Time AM/PM hh : mm	
19	Final kickoff team training for full execution of program (optional)	Date mm / dd / year Time AM/PM hh : mm	

	Activities	Response	Comments (be specific)
Local Networks			
21	Notify provider groups, inpatient nurses, and partnering clinics of STAC program	Complete: ☐	
22	Identify local postpartum depression resources	Complete: ☐	

Optional To Do at Onset or Later:			
23	Building and coordinate LifeStream to EPIC interface	Complete: ☐	
24	Consider state billing codes for remote patient monitoring and if relevant establish billing codes for local area	Complete: ☐	

Link to .pdf of Preparation: https://uwmadison.box.com/s/3oqkcp2ub09blwj3wrwg6krozzgtcoj9

Implementation (1 week)

	Activities	Response	Comments (be specific)
Administer Program			
1	Notify provider groups, inpatient nurses, and partnering clinics of STAC program start	Complete: ☐	
2	Implement patient intake/enrollment plan	Complete: ☐	
3	Enact standard treatment algorithms as suggested in the STAC treatment algorithms and program workflow	Complete: ☐	
4	Enact equipment management plan	Complete: ☐	
5	Collect data (i.e. implementation fidelity, patient-level outcomes, feedback, etc.)	Complete: ☐	

Link to .pdf of Implementation: https://uwmadison.box.com/s/mt6ngd1ca36i7lex4brnlntz7lrqyvgy

Sustainability (6-12 months)

	Activities	Response	Comments (be specific)
Examine Data to Evaluate Program and Identify Adaptations Needed			
1	Schedule quarterly check-ins	Complete: ☐	
2	Continue to track data / outcomes of interest		
3	Gather employee feedback	Complete: ☐	
4	Gather provider feedback	Complete: ☐	
5	Gather patient feedback	Complete: ☐	
6	Evaluate using suggested framework	Complete: ☐	
7	Modify data fields based on evaluation and relevance to your hospital / system		
8	Track adaptations		
9	Is there sufficient funding to continue the program and meet program needs?	◯ Yes ◯ No ◯ Uncertain	

Link to .pdf of Sustainability: https://uwmadison.box.com/s/lfesoc75ezh5i19a3of5s85yz0vv1b5o

Telehealth Program Roles and Responsibilities

Key Role	*Description*	*Responsibilities may include:*	*Responsible Person(s) In Organization*
Telehealth Program Manager*	Manages telehealth program and is responsible for the program.	• Tracks key performance indicators (KPI) for RPM (remote patient monitoring) • Oversees program and reports to organizational leadership • Ensures policies and procedures are followed • Facilitates care collaboration and communication • Creates and operationalizes clinical care practices • Key contributor in the development of workflows and the telehealth delivery model • Adds new users and manages Security Roles • Assists new users with troubleshooting and password management	
Telehealth Direct Care Team (Physician(s) and/or Nurse Practitioners and RNs)+	Provides care management for the patient population(s) on telehealth. Uses LifeStream Web and RPM to coordinates the patient's care plan.	• Proficient with the LifeStream application and Genesis Touch monitor • Coordinates care based upon remote patient monitoring trends and clinical assessments • Provides clinical interventions as needed • Communicates with care team and updates documentation to support the program KPI's • Maintains competency of equipment management and patient instruction.	
Patient Intake/Enrollment Coordinator*+	Identifies appropriate referrals for telehealth program.	• Reviews incoming referrals to identify potential patients for a telehealth program • Facilitates processes that support appropriate and timely monitor placement • Provides patient education about home blood pressure monitoring equipment • Distributes equipment to patients	
Inventory Manager*+	Maintains and manages inventory and equipment.	• Maintains and tracks RPM devices and peripherals • Coordinates processes for installation and de-installation • Follows established equipment policy and procedures • Cleans and stores equipment between use • Contacts Resideo for replacement or return of equipment	
Technology Administrator+	Responsible for telehealth platform and user management.	• Responsible for LifeStream platform implementation and management, and knowledgeable about the system requirements • Coordinates interface dialog between EMR software company and Resideo (if applicable) • Coordinates LifeStream upgrades (if applicable)	
Telehealth Case Manager(s)*	Provides care for patients on telehealth. Uses the RPM as a tool to provide care.	• Understands KPI's and the telehealth delivery model • Proficient with the Genesis Touch, patient/caregiver instruction, and troubleshooting • Observes and assesses patient/caregiver use of the RPM • Collaborates with care providers and optimizes the RPM to reflect the patient plan of care • Communicates with patients/caregivers, physicians, and care providers	

Clinical Educator	Provides clinical education and development activities related to the telehealth program.	• Collaborates with telehealth team members to establish policies • Develops, implements, and delivers telehealth training for new and established employees • Oversees annual competencies associated with program activities • Provides regular updates to staff in matters related to telehealth education or information	
Marketing Liaison	Represents the organization to the external community. Communicates with referral sources, physicians, and healthcare providers based on marketing plan.	• Prepares marketing plan that incorporates a telehealth approach • Collaborates with team to identify marketing needs • Provides demonstrations and education about telehealth to medical community and citizen group • Engages in individualized follow-up for recruiting physician advocacy and resolves concerns • Coordinates team efforts for patient and physician satisfaction reporting	
Quality Assurance	Tracks key performance indicators and identifies improvement opportunities.	• Integrates federal or state quality improvement initiatives into telehealth program • Utilizes LifeStream and/or POC/EMR software reports for tracking data and measuring outcomes • Responsible for tracking and reporting, along with comparing and evaluating, various segments of the telehealth program	

*The same person may do both roles
⁺Can be less than full time FTE

Job Description
Remote Patient Montoring Clinician - RN

Details:

Job Title	Remote Patient Monitoring - Registered Nurse	*Custom Field*	
Company		*Custom field*	
Business Unit		*Custom Field*	
Dept ID		*Custom Field*	
Department		*Custom Field*	
Prepared by:		Date	
Approved by:		Date	

Summary

The person in this role will participate in the development, maintenance, and implementation of program goals and objectives (if program is new to organization). This person will be responsible for the identification, onboarding, offboarding, and daily management of patients participating in remote patient monitoring. This person will deliver care based upon patient biometrics, clinical assessments, and the patient plan of care. This person will adhere to the clinical protocols to guide clinical care. This person will collaborate with clinical team members to achieve optimal patient outcomes. In addition, they will provide medical record documentation to support all clinical care delivered. They may participate in the collection and reporting of key programmatic performance indicators.

Responsibilities

Role	**% Time** *% will vary per organization*
Identifies, onboards and offboard new patients	customize
Clinical oversight and interventions as need for patients on remote patient monitoring	customize
Collaborates with team members to enhance positive patient outcomes and unplanned healthcare utilization	customize
Unitizes technology to influences clinical outcomes, improves healthcare efficiencies, and improve access to care.	customize
Implements and contributes to the development of workflows and the telehealth delivery model. Identifies areas of continue improvement following the (customize) model.	customize
Documents in the medical record documentation to support key performance indicators and organizational documentation requirements	

Creates and runs reports for care management and benchmark performance as directed by leadership	customize
Participates in training, coaching of new and existing staff.	customize
Contributes to the achievement of key performance indicators (KPI) for RPM (remote patient monitor)	
Customize and add additional rows as needed	customize
Performs other duties as assigned.	customize

Organization

Reports To:

Requirements

Minimum Requirements	**Preferred Requirements**
Education: Bachelor of Science in Nursing	**Education** Customize
Experience Minimum two years' experience	**Experience** Customize
Licensure, Certification, Registration RN, customize	**Licensure, Certification, Registration** Customize
Language Skills Strong written and verbal communication skills.	**Language Skills** Customize

Knowledge, Skills and Ability Requirements:

- Ability to effectively communicate at all levels within the organization and share knowledge, ideas, and information.
- Excellent communication (in person and virtual) and clinical assessment skills
- Knowledge of relevant industry standards for (customize) with an emphasis on (customize) and related diseases.
- Intermediate to advanced skills: Microsoft Office (Outlook, Word, Excel, PowerPoint) and (customize).

Sample: This document represents the major duties, responsibilities, and authorities of the job, and it not intended to be a complete list of al tasks and functions. It should be understood, therefore, that incumbents may be asked to perform job-related duties beyond those explicitly described. All employees are required to familiarize themselves and continually comply with all federal and state health care laws, regulations, and rules.

Consent Form Templates

I understand that:

_____ I give permission for the (insert hospital name) staff to provide home telemonitoring services to me.

_____ The home monitoring equipment is not an emergency response device. In the case of an immediate medical emergency, I know I must call my local emergency service (911) and/or my health care provider.

_____ The home monitoring equipment is the property of (insert hospital name). The program is free of charge unless the equipment is not returned. It is expected that I return all equipment including chargers and unused batteries.

_____ I am the only person who will be the equipment.

_____ I will submit 2 blood pressure readings, 1 minute apart before 1 PM daily, unless otherwise discussed with the Telehealth nurse.

_____ I will answer daily questions either yes or no (questions are provided on the tablet).

_____ I accept communication with the Telehealth program staff via text message and phone call. I understand that my emergency contact will be contacted if the telehealth staff is unable to contact me.

_____ Information obtained from the telehealth monitors is considered part of my health care record and may be shared with other health care providers.

_____ I have the right to opt out of the program at any time. If opting out of the program, the equipment will be returned within 5 days.

_____ The Center for Perinatal Care may share information with others both inside and outside of the organization as a way to assess care provided to clients and the benefits of home telehealth, however, none of the information will identify me.

_____ I understand that I will have the following equipment checked out to me for a period of 6 weeks and will return the equipment within 5 days of program completion:

Kit #: _____
Tablet: _____
BP Machine: _____
Pulse oximeter: _____

Signed_____ Date_____

Witness_____ Date_____

Entiendo que:

_____ Doy permiso para que el personal de (inserte el nombre del hospital aquí) me proporcione servicios de telemonitoritorización domiciliaria.

_____ El equipo de monitoreo para casa no es un aparato de respuesta para emergencias. En el caso de una emergencia médica inmediata, sé que debo llamar a mi servicio local de emergencia (911) y/o a mi proveedor de atención médica.

_____ El equipo de monitoreo para casa es propiedad de (inserte el nombre del hospital aquí). El costo del equipo es de $500.00. El programa es gratuito, a menos que no se regrese el equipo. Se espera que devuelva todo el equipo, incluyendo los cargadores y las baterías sin usar.

_____ Soy la única persona que usará el equipo.

_____ Enviaré a diario 2 lecturas de la presión sanguínea con 1 minuto de diferencia antes de la 1:00 p. m., a menos a menos que se haya acordado de otra forma con la enfermera de telesalud (telehealth).

_____ Contestaré las preguntas diariamente, ya sea sí o no (las preguntas están en la tableta).

_____ Acepto la comunicación con el personal del programa de telesalud a través de mensajes de texto y llamadas telefónicas. Entiendo que se comunicarán con mi contacto de emergencia si el personal de telesalud no se puede poner en contacto conmigo.

_____ La información obtenida de los monitores de telesalud se considera parte de mi expediente médico y se puede compartir con otros proveedores médicos.

_____ Tengo el derecho de salirme del programa en cualquier momento. Si me salgo del programa, el equipo se regresará dentro de 5 días.

_____ El Centro para el Cuidado Perinatal puede compartir información con otros dentro y fuera de la organización, como una forma de evaluar la atención que se da a las pacientes y los beneficios de telesalud en casa; no obstante, ninguna de la información me identificará.

_____ Entiendo que tendré el siguiente equipo a mi disposición por un período de 6 semanas y lo regresaré dentro de 5 días de terminar el programa.

Kit #: _____

Tableta: _____

Máquina de la presión sanguínea: _____

Oxímetro de pulso: _____

Firma _____ Fecha_____

Testigo _____ Fecha_____

ENROLLMENT CHECKLIST TEMPLATE

PATIENT INFORMATION

Patient name: _____

Date of Assessment: _____

Clinician: _____

PATIENT INCLUSION CRITERIA

_____ Postpartum female

_____ Within 2 weeks of delivery

_____ Age 13 or older

_____ Hypertension-related diagnosis made in the antenatal and/or postpartum period

_____ Spoken language: English, French Canadian, or Spanish

MEDICATION MANAGEMENT

_____ Started or changed in the medication regime within the last 2 weeks

COMMUNICATION AND TECHNOLOGY

_____ Able to communicate daily with provider via email, telephone or text message

_____ Able to perform the vital sign testing independently

CONSENT

_____ In agreement with care and use of the telemonitoring equipment

_____ In agreement with daily transmission of blood pressure

SOCIAL DETERMINANTS OF HEALTH

Assess the need for monitor placement with each N response and the influence of the 5 domains on the patients' health status

- Economic Stability: Y / N

- Education Access: Y / N
- Health care Access: Y / N
- Neighborhood, Environment Health, and Safety Risks: Y / N
- Social and Community Network: Y / N

Policy Statement

TITLE: **Staying Healthy After Childbirth: A Postpartum Hypertension Program**

CREATED: mm/dd/yyyy

APPROVED: _____ _____

Name, DIRECTOR

I. PROTOCOL STATEMENT

The Staying Healthy After Childbirth program is a remote patient monitoring program for postpartum women with any hypertension-related diagnosis made in the antenatal and/or postpartum period of the current pregnancy. The program is designed to monitor patients up to 6 weeks postpartum. This protocol addresses the process for enrolling patients in this program.

II. PROTOCOL

A. Program Clinical Eligibility Criteria

1. Patients meeting all of the following criteria can participate in the program:
   a. Age13 years or older
   b. Hypertension-related diagnosis made in the antenatal and/or postpartum period
   c. Is within 2 weeks ***postpartum (either from primary admission or readmission)***
   d. Ability to speak/understand language included in equipment's instructions for use (i.e., English, French Canadian, or Spanish)

B. Protocol

1. A patient may be identified as meeting eligibility criteria by any member of the healthcare team (e.g., provider, resident, nurse).
2. Once eligibility is established, the provider or nurse will discuss the program with the patient and obtain interest. If there are questions, the nurse may contact the PP Telehealth staff as listed in Section C. Follow-up.
3. If patient is interested in the program, the patient's RN submits a referral to the Staying Healthy after Childbirth program by entering the order, "AMB REF to Postpartum Telehealth-Meriter, REF705".
   a. Nurses enter the order mode "Hospital Policy-no cosign required"
   b. The patient's attending OB Provider is entered as the ordering and authorizing provider
4. An enrollment Medical Assistant (MA) is available to receive referrals and enroll hospitalized patients according to the following schedule:
   a. Monday-Friday 9:00 am - 2:00 pm
   b. Weekends and Holidays 9:00 am -1:00 pm
   c. Afterhours, patients will not be able to enroll until next day
5. The Enrollment MA, in collaboration with the Postpartum charge nurse, reviews the work queue daily titled: "(insert hospital name) Perinatal Incoming Referral Needs Scheduled [317663]" within the electronic health record (EHR).
6. The Enrollment MA reviews the patient's EHR and visits the patient on the Postpartum floor before discharge.
   a. The following items are discussed with the patient
      1) Program description, including length of program
      2) Details of equipment sent home with patient
      3) Consent for participation in program
      4) Equipment return process

b. The Enrollment MA measures the arm circumference of the patient to ensure the proper size BP cuff is given. Refer to Patient Care Standard of Care #43, "Blood Pressure-Adult".
c. The Enrollment MA demonstrates the technique for BP assessment and observes a return demonstration from the patient.

7. Enrollment MA notifies the patient's postpartum RN if the patient is enrolled or refused the program.

C. Follow-up

1. Nursing staff or providers who have program questions can contact the Telehealth Team in the following way:
   a. When a patient is still inpatient, the Enrollment MA can be reached during the day by Vocera: "Postpartum Telehealth"
   b. Enrollment office: 6 Center, Room 6231 Phone 417-6346
   c. Epic Inbasket: pool MCM PNC Telehealth Postpartum Hypertension
   d. Questions specifically for the telehealth nursing team
      1) Call the (insert hospital name here) operator
      2) Ask for the Telehealth nurse on call daily 8:00 am – 4:00 pm

D. Documentation

1. After enrolling the patient in the program, the Enrollment MA creates a Telehealth Vitals appointment in the patient's EHR.
2. The Enrollment MA documents equipment set up, verifies correct demographics, adds diagnosis and any antihypertensive medications to technology platform.
3. The Enrollment MA creates a progress note within EHR, including blood pressure obtained and equipment serial numbers.
4. The Enrollment MA adds patient's information to Telehealth report.

III. REFERENCE/RESOURCES

A. Maternal Fetal Medicine

B. Hoppe KK, Thomas N, Zernick M, Zella JB, Havighurst T, Kim K, Williams M, Niu B, Lohr A, Johnson HM. Telehealth with remote blood pressure monitoring compared with standard care for postpartum hypertension. Am J Obstet Gynecol. 2020 Oct;223(4):585-588. doi: 10.1016/j.ajog.2020.05.027. Epub 2020 May 19. PMID: 32439388..

C. Telehealth with remote blood pressure monitoring for postpartum hypertension: A prospective single-cohort feasibility study. Pregnancy Hypertens. 2019 Jan;15:171-176. doi: 10.1016/j.preghy.2018.12.007. Epub 2018

IV. REVIEWED/APPROVED BY

A. Perinatal Services Nursing Leadership, November 2020

B. Center for Perinatal Care Medical Leadership, November 2020

V. LINKS TO OTHER MERITER POLICIES/STANDARDS/PROTOCOLS/GUIDELINES

A. Patient Care Standard of Care #43, "Blood Pressure-Adult"

B. Patient Care Policy #08, "Documentation in the Patient Record"

Frontline Healthcare Provider Recruitment/Informative Script Template

Recommended Introduction:

Hello, my name is [Credential/Name]. Congratulations on your new baby. I wanted to tell you about an exciting home monitoring program that can help new mothers like you. Mothers with high blood pressure during pregnancy, delivery or after birth. It's actually pretty common for new mothers to have high blood pressure. The high blood pressures can continue to cause problems after you leave the hospital if it's not checked often and treated right away. Our home monitoring team wants to give mothers easy-to-use equipment so they can conveniently check their blood pressure at home instead of driving back and forth to the clinic for check-ups or to the emergency room when the clinic is closed. This program helps keep mothers healthy and safe so they can enjoy time with their new babies. Our program is supported by and we work directly with your own provider as needed. We take care of your blood pressures through your entire 6-week postpartum time (until you see your provider for your final checkup).

Welcome Letter to Patients

Welcome to STAC: Your Home Blood Pressure Monitoring Program!

Your doctor has recommended that you participate in our program to monitor the high blood pressures you have been experiencing which may have started before, during, or after your delivery.

The STAC team consists of registered nurses, medical assistants, and a physician. We will be monitoring your blood pressures and other vital signs closely over the next several weeks to ensure your blood pressures stay within a safe range. Sometimes, medication(s) to lower your blood pressure may be needed to get or keep your blood pressure in a safe range. If this is necessary, the STAC nurse will contact you and discuss your options. If you are being discharged home on blood pressure medication, the STAC nurse will also give you instructions on how to take this medication throughout the program, as your dose may change over time.

The STAC team will be your first point of contact for any questions or concerns about blood pressure symptoms, as listed below. A summary of your care will also be given to your OB provider once you complete the program. Please note that if your blood pressure is greater than 140/90, the STAC team will contact you.

You will continue to see and contact your OB provider for any questions or concerns that are not related to your blood pressure including your 6-week postpartum clinic appointment.

Your Role

Please start performing your vital signs the morning after you have been discharged from the hospital.

It is important for you to perform your vital signs every day before 1pm*. Any vital signs submitted after 4pm will not be viewed until next day.

The STAC nurse will call you the first day after you've been discharged from the hospital to review the vitals you have submitted so far, verify you're not having any symptoms of high blood pressure, make a plan of care for you to follow if concerns arise, and answer any questions you may have. If you are unable to answer when the RN calls, please text or call back with a time that you will be available.

If you start to have any of the following symptoms, please contact the STAC nurse. If you are experiencing these symptoms after 4pm*, please contact your OB provider.

- Headache, not relieved by Tylenol or Ibuprofen
- Vision changes
- Pain in your stomach
- New or increased swelling to hands or face
- Shortness of breath or chest pain

View the included instructions for correctly taking your blood pressure.

*Suggested time by the STAC creators 7 days of week, 8am-4pm availability, assess what is most appropriate for your institution

Hours and Contact Information

- The STAC nurses are available every day between 8am and 4pm*.
- If you have an immediate need that occurs outside of these hours, please contact your OB provider.
- If you have an emergency, please go to the emergency room or call 911.
- The STAC nurse may send a group text to you the first day home for ease of contacting the STAC team.
- For general program questions, issues or questions about your equipment contact the Enrollment Line.

INSERT HOSPITAL LOGO

STAC
Staying Healthy After Childbirth

Welcome to STAC: Your Home Blood Pressure Monitoring Program

Your doctor has recommended that you participate in our program to monitor the high blood pressures you have been experiencing which may have started before, during, or after your delivery.

The STAC team consists of registered nurses, medical assistants, and a physician. We will be monitoring your blood pressures and other vital signs closely over the next several weeks to ensure your blood pressures stay within a safe range. Sometimes, medication(s) to lower your blood pressure may be needed to get or keep your blood pressure in a safe range. If this is necessary, the STAC nurse will contact you and discuss your options. If you are being discharged home on blood pressure medication, the STAC nurse will also give you instructions on how to take this medication throughout the program, as your dose may change over time.

The STAC team will be your first point of contact for any questions or concerns about blood pressure symptoms, as listed below. A summary of your care will also be given to your OB provider once you complete the program. Please note that if your blood pressure is greater than 140/90, the STAC team will contact you.

You will continue to see and contact your OB provider for any questions or concerns that are not related to your blood pressure including your 6-week postpartum clinic appointment.

INSERT HOSPITAL LOGO

Welcome to STAC: Your Home Blood Pressure Monitoring Program

Your Role

Please start performing your vital signs the morning after you have been discharged from the hospital. You should be the only person using the equipment.

It is important for you to perform your vital signs every day before 1pm*. Any vital signs submitted after 4pm will not be viewed until next day.

The STAC nurse will call you the first day after you've been discharged from the hospital to review the vitals you have submitted so far, verify you're not having any symptoms of high blood pressure, make a plan of care for you to follow if concerns arise, and answer any questions you may have. If you are unable to answer when the RN calls, please text or call back with a time that you will be available.

If you start to have any of the following symptoms, please contact the STAC nurse. If you are experiencing these symptoms after 4pm*, please contact your OB provider.

1. Headache, not relieved by Tylenol or Ibuprofen
2. Vision changes
3. Pain in your stomach
4. New or increased swelling to hands or face
5. Shortness of breath or chest pain

*Suggested time by the STAC creators 7 days of week, 8am-4pm availability, assess what is most appropriate for your institution

INSERT HOSPITAL LOGO

STAC
Staying Healthy After Childbirth

Welcome to STAC: Your Home Blood Pressure Monitoring Program

Hours and Contact Information

The STAC nurses are available every day between 8am and 4pm*

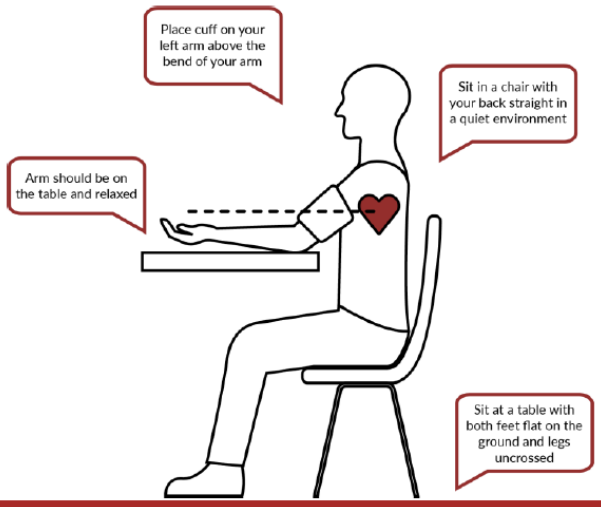
If you have an immediate need that occurs outside of these hours, please contact your OB provider

In the case of an emergency, please go to the emergency room or call 911

The STAC nurse may send a group text to you the first day home for ease of contacting the STAC team

For general program questions or to discuss any issues about your equipment, contact the Enrollment Line

*Suggested time by the STAC creators 7 days of week, 8am-4pm availability, assess what is most appropriate for your institution

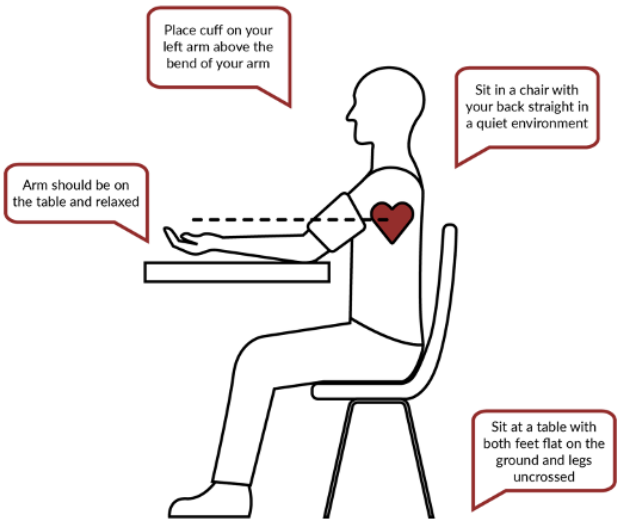


For more information, visit: www.stacathome.org

STAC
Staying Healthy After Childbirth

Blood Pressure Tips

- Before taking your blood pressure, do not exercise, eat a large meal, or use products containing **caffeine or nicotine** 30 minutes prior to the reading.
- If you are on blood pressure medications, time your blood pressure measurement to be **60-90 minutes** after your morning medications.
- Empty your bladder before measuring. Sit at a table with both feet **flat on the ground** and legs uncrossed.
- Place cuff on your left arm. Cuff should be **on your skin** without any clothing in between, and cuff should be above the bend of your arm.
- Arm should be on the table with palm facing up. **Leave arm relaxed** and rest quietly for 5-10 minutes prior to taking your blood pressure.
- Ensure a **quiet environment**. Take slow breaths and do not talk.
- **Take two blood pressure measurements** during the same sitting, one minute apart.



For more information, visit: stacathome.org

How To Use Equipment

*Note: This is where a guide to the chosen technology platform would be added into this handbook

Also add this information to the sheet:

Contact your Care Team at: 888-888-8888
8:00 AM – 4:30 PM, Monday – Friday

IMPORTANT: For Medical Emergencies Dial 911

Spanish Translation Help Sheet

Telehealth Spanish Translation

Hola. Soy _____ de Telesalud (Telehealth) de (inserte el nombre del hospital), recordándole tomar su presión sanguínea el día de hoy. Por favor hágame saber si le gustaría que le llame con un intérprete por cualquier pregunta o inquietud. Gracias.

¿Necesita que su enfermera de telesalud se ponga en contacto hoy con usted?
¿Está amamantando?
¿Está tomando ibuprofeno, Motrin, or Advil desde que se fue del hospital?
¿Tiene un dolor de cabeza nuevo o que le procupe y que no se quite con Tylenol o ibuprofeno?
¿ Le cambió alguien más sus medicamentos para la presión sanguínea, aparte del equipo de telesalud?
¿Si le recetaron medicamentos para la presión sanguínea, los dejó de tomar por alguna razón?
¿Tiene alguno de estos síntomas: vision borrosa, falta de respiración, dolor severo en su estómago, o dolor de pecho?
¿La volvieron a internar en el hospital alguna vez en la última semana?

Técnica apropiada para obtener una lectura precisa de la presión sanguínea en casa:

- Vacíe su vejiga y tome su presión sanguínea por lo menos 30 minutes después de tomar cafeína, usar nicotina, o de hacer ejercicio.
- Escoja un medio ambiente silencioso y no hable mientras toma su presión sanguínea.
- Siéntese con su espalda apoyada en el respaldo de la silla (la silla de cocina es mejor que un sillón) y con sus pies planos en el piso o en un banquito.
- Coloque su brazo al nivel de su corazón poniéndolo en una almohadita, sobre el brazo de la silla, o sobre la mesa.
- Ponga el brazalete de la presión sanguínea en la piel del brazo con el cable siguiendo la parte interna de su antebrazo hacia su mano. El brazalete debe estar aproximadamente una pulgada por encima del pliegue del codo. Mantenga sus piernas sin cruzar y los pies en el piso o en un banquito.
- Una vez que se ponga el brazalete, respire despacio y profundo para relajarse mientras se toma la presión sanguínea.

SECTION C: STAC CLINICIAN AFTER DISCHARGE SECTION

RN Education for Hypertensive Disorders of Pregnancy Information Sheet

Risk Factors for Preeclampsia

- Nulliparity
- Multifetal gestations
- Preeclampsia in a previous pregnancy
- Chronic Hypertension
- Pregestational Diabetes
- Thombophilia
- Systemic lupus erythematosus
- Prepregnancy body mass index greater than 30
- Antiphospholipid antibody syndrome
- Maternal Age 35 years or older
- Kidney Disease
- Assisted reproductive technology
- Obstructive sleep apnea

Diagnostic Criteria for Preeclampsia

- Blood Pressure
    - Systolic blood pressure of 140 mm Hg or more or diastolic blood pressure of 90 mm Hg or more on two occasions at least 4 hours apart after 20 weeks of gestation in a woman with a previously normal blood pressure
    - Systolic blood pressure of 160 mm Hg or more or diastolic blood pressure of 110 mm Hg or more. (Severe hypertension can be confirmed within a short interval to facilitate timely antihypertensive therapy).

  and

- Proteinuria
    - 300 mg or more per 24-hour urine collection (or this amount extrapolated from a timed collection)

  Or

    - Protein/creatinine ratio of 0.3 or more or Dipstick reading of 2+ (used only if other quantitative methods not available)

  Or in the absence of proteinuria, new-onset hypertension with the new onset of any of the following:
    - Thrombocytopenia: Platelet count less than 100 x 10^9 /L
    - Renal insufficiency: Serum creatinine concentrations greater than 1.1 mg/dL or a doubling of the serum creatinine concentration in the absence of other renal disease

- Impaired liver function: Elevated blood concentrations of liver transaminases to twice normal concentrations
- Pulmonary edema
- New-onset headache unresponsive to medication and not accounted for by alternative diagnoses or visual symptoms

Preeclampsia with Severe Features

- Systolic blood pressure of 160 mm Hg or more, or diastolic blood pressure of 110 mm Hg or more on two occasions at least 4 hours apart (unless antihypertensive therapy is started before this time)
- Thrombocytopenia (platelet count less than 100 x 10^9 /L)
- Impaired liver function that is not accounted for by alternative diagnoses and as indicated by abnormally elevated blood concentrations of liver enzymes (to more than twice the upper limit normal concentrations), or by severe persistent right upper quadrant or epigastric pain unresponsive to medications
- Renal insufficiency (serum creatinine concentration more than 1.1 mg/dL or a doubling of the serum creatinine concentration in the absence of other renal disease)
- Pulmonary edema
- New-onset headache unresponsive to medication and not accounted for by alternative diagnoses
- Visual disturbances

Gestational Hypertension

- Systolic blood pressure 140 mm Hg or more or a diastolic blood pressure of 90 mm Hg or more, or both, on two occasions at least 4 hours apart after 20 weeks of gestation, in a woman with previously normal blood pressure

Hemolysis, Elevated Liver Enzymes, and Low Platelet Count Syndrome (HELLP)

- LDH elevated to 600 IU/L or more
- AST and ALT elevated more than twice the upper limit of normal
- Platelets count less than 100 x 10^9 /L

Eclampsia

- New-onset tonic-clonic, focal, or multifocal seizures in the absence of other causative conditions such as epilepsy, cerebral arterial ischemia and infarction, intracranial hemorrhage, or drug use

Chronic Hypertension

- Pre-existing hypertension
- Hypertension diagnosed during pregnancy prior to 20 weeks gestation
- Possible to have chronic hypertension with superimposed preeclampsia

RN Training Plan

- Week 1
  - Hospital Orientation
  - Epic Ambulatory Orientation
  - Technology Access
  - Technology Orientation
  - Read most updated ACOG article regarding hypertensive disorders of pregnancy

- Week 2
  - Shadow Monitoring RN
  - Shadow Enrollment Staff
  - Equipment Training
  - Enroll patients at hospital

- Week 3
  - Shadow Monitoring RN
  - If Program Lead/Manager, Technology Analytics orientation

- Week 4
  - Semi-Independent Monitoring
  - Follow up Technology Education

- Week 5
  - Semi-Independent Monitoring

- Week 6
  - Independent Monitoring

Nurse Script Examples for Training Purposes

First Day Home Script

Nurse: Good morning. This is (insert nurse's name here) from the Staying Healthy After Childbirth program. Do you have a few minutes to talk about your blood pressure and the course of our program?

Patient: Hi, (insert nurse's name here). Sure, I can talk.

Nurse: Perfect. How was your first night home?

Patient: Oh, alright. I didn't get much sleep. My baby was up a lot.

Nurse: Oh no, well I hope you can get some rest during the day today. I received your blood pressures about 10 minutes ago, but first I wanted to discuss your diagnosis of Preeclampsia. Do you have any questions of what that means?

Patient: No, not really. I know my blood pressures should be starting to get better now that I'm home, though.

Nurse: Your body will recover from having preeclampsia over the next several weeks, but your blood pressure may increase over the next several days. Typically with preeclampsia, you blood pressure can actually decrease after having your baby due to fluid and hormone shifts, but it can actually increase and peak between day 5 and 10 postpartum.

Patient: oh really! I thought it would all be better now and I'd just need a few blood pressure checks.

Nurse: No, this is why we are here for you, to help monitor your blood pressure daily until your 6-week postpartum appointment. Daily blood pressure checks are especially important in these first few weeks. There will be no need for you to return to the doctor's office for blood pressure checks.

Patient: Oh ok, that sounds great.

Nurse: Going forward, we will want to know about any worsening signs of preeclampsia, like a really bad headache that does not go away with rest or pain medication, a sudden increase in your swelling or swelling that goes into your face or hands, pain in the upper right side of your abdomen, visual changes like seeing spots or floaters, shortness of breath or chest pain. Are you having any of those symptoms today?

Patient: No I'm feeling pretty good today. I did have a headache last evening, but it went away. I'm just tired.

Nurse: Good to hear. Headaches can be really common in the postpartum period, due to hormones, stress, and lack of sleep. Going forward, we will want to know if you are having any of those symptoms.

Patient: No I'm not having any symptoms right now.

Nurse: Good. The nurse group is available daily from 8am-4pm, including weekends and holidays. The easiest way to be in touch with us is to text, so I will text our numbers to you when we are done talking. You can also use the tablet to ask for contact via the questions. If you are having any concerns outside of our hours, we encourage you to contact your primary OB clinic or go to the ED.

Patient: That sounds good.

Nurse: Great. Now back to your blood pressure. I received a 136/82 and a 142/84. Does that sound correct?

Patient: I believe so.

Nurse: Good. I want to make sure you understand how to take a proper blood pressure.

Patient: Oh, I'm a nurse. I know how to take a blood pressure.

Nurse: Oh perfect. I'm just going to verify, though, since you have a lot of new things happening.

Patient: OK

Nurse: Do not have caffeine or smoke cigarettes within 30minutes to an hour prior to taking your blood pressure. Make sure you have gone to the bathroom, you sit at a table with a chair and your feet flat on the floor, you rest for 5-10 minutes, there's no noise and you are not talking while taking your blood pressure, and you do not feel anxious. Take your blood pressure on your left arm without bulky clothing underneath the cuff and have your cuff at the level of your heart. It's good to set yourself up for an accurate blood pressure in the morning.

Patient: Oh, thanks for those reminders.

Nurse: No problem. No news from our team is good news going forward. We will be in touch if we are concerned about any values we see. If there is a concern, we will be able to start blood pressure medication without you having to return to the clinic or hospital.

Patient: Well, I hope that doesn't happen. I wouldn't want to start blood pressure medication.

Nurse: Yes, understood, but know that many women need a little help to recover from preeclampsia and it typically is only temporary to be on blood pressure medication.

Patient: Oh ok. Sounds good.

Nurse: As far as equipment goes, make sure to leave you tablet plugged in and on at all times or the tablet will easily lose its power. The blood pressure machine has to be near the tablet since

it is blue tooth connected. One of the most common problems in the blue tooth losing connection, so if that ever happens, let us know and we can help reconnect.

Patient: ok

Nurse: We want you to answer the questions and do 2 blood pressures a minute apart every day.

Patient: I did that today.

Nurse: Yes, I received both. The questions will rotate on a daily basis, so you will not get the same questions every day.

Patient: sounds good

Nurse: No news from us is good news, but we will send reminders in the afternoon if you forget to take your blood pressure. Our program is optional but encouraged for 6 weeks. If at any time you decide you would like to end the program early, let us know and we can talk about program completion and equipment return at that time.

Patient: ok thanks

Nurse: We will call you around 5 weeks postpartum to discuss program completion and equipment return.

Patient: Sounds good

Nurse: Do you have any questions about all this information?

Patient: Are you going to send all this information to my doctor every day?

Nurse: No, we do not have daily contact with your doctor, but your blood pressure does transmit into Epic. We work with a doctor named (insert doctor's name here), who is a Maternal/Fetal medicine specialist at (insert hospital name here). She is available if we have any questions regarding your care. We will keep your clinic updated with any concerns and will send them a summary of your time in the program prior to your 6-week postpartum appointment.

Patient: Ok that sounds good.

Nurse: Perfect. I'll get you the nurse text and keep us updated on how you're feeling.

Patient: I will

Nurse: Good, have a good day!

Patient: Thanks, you too.

How To Take A Blood Pressure

Why do we care about blood pressure?

Blood pressure is the force of you blood against the walls of your arteries. Hypertension or high blood pressure is when this force is more than it should be. When blood pressure is high for an extended time period, it can cause problems like stroke and organ damage.

Most recent national guidelines suggest that the most accurate way to take your blood pressure is at home in your own environment.

One of the most important aspects of the program is taking your blood pressure correctly to ensure an accurate reading. Prior to going home from the hospital, one of our program's medical assistants will teach you how to correctly take your blood pressure. Your upper arm will be measured, so we can send you home with the correct size of blood pressure cuff.

In the 30 minutes before you take your blood pressure, do not exercise, eat a large meal, or use products containing caffeine or nicotine, such as coffee, tea, or cigarettes. If you are on blood pressure medications, please time your blood pressure reading to be about 60-90 minutes after your morning blood pressure medications. We use this value to ensure correct dosing of your blood pressure medications, and we can increase or decrease your dosing based on this after-medication value.

Prior to sitting down to take your blood pressure, you should empty your bladder. Sit at a table, such as a dining room table, on a chair with your feet flat on the ground and your legs uncrossed.

Place your blood pressure cuff on your left arm, as this arm is more accurate, unless otherwise instructed by the nurse. The cuff should be on your skin without any clothing in between the cuff and your arm and should be just above the bend of your arm. It should be snug around your arm, but not too tight.

Your arm should be rested on the table about at the level of your heart with your palm facing up. Do not tense your arm or take your blood pressure while feeling anxious. Leave your arm relaxed and rested on the table. Make sure to rest for 5-10 minutes quietly prior to taking your blood pressure.

Using your device, tap vitals now. Tap select all, so you include the daily questions and a blood pressure. Answer the listed questions and follow the prompts to start your blood pressure machine.

The cuff should inflate and deflate to measure your blood pressure. Your environment should be quiet. Any noise can raise your blood pressure and can give an inaccurate value. Do not talk, text, or watch TV while taking your blood pressure. Take slow deep breaths.

On your device, make sure to follow the prompts until you reach the final screen to ensure the device reads transmission successful. Push done when complete. Tap vitals now, then tap

blood pressure to complete your second blood pressure and follow the prompts to take your second blood pressure. Cycle to the final screen to ensure transmission of your blood pressure by viewing transmission successful and push done. You can now take off your blood pressure cuff.

To ensure accuracy, make sure to take 2 blood pressures during the same sitting, about a minute apart. You will be contacted by the Telehealth nurse if your values are concerning or you mark that you are having symptoms.

When the blood pressure machine is complete, you will see three numbers. The top value of your blood pressure is called systolic blood pressure, which is the pressure in your arteries when your heart beats. The bottom number of your blood pressure is called diastolic blood pressure, which is the pressure in your arteries when your heart is at rest.

No news from the Telehealth team means no action is necessary. Continue to report any concerning signs or symptoms of preeclampsia, such as severe headache, seeing spots or other visual changes, shortness of breath, pain in the upper right side of your abdomen, feeling nauseous or throwing up, or swelling in your hands or face.

If you are unable to take your blood pressure prior to 1pm by using the above instructions, please discuss with the Telehealth team. The Telehealth nurses are available daily from 8am-4pm for any questions or concerns.

Intervention call starting antihypertensive medication scripts

Starting Antihypertensive Medication Scripts

Situation 1

Situation: 28-year-old African American G2P2 delivered 4 days ago with a diagnosis of Chronic Hypertension with superimposed Preeclampsia with severe features. She has a health hx of asthma, depression, and obesity. Pre-pregnancy, she was taking Lisinopril 10mg daily. She was discharged home on Labetalol 400mg three times daily. Her blood pressures in the hospital were consistently 140s/80s. Her first day home her blood pressure was 142/84 with HR in the 60s, and she has no worsening signs of preeclampsia. States she is taking her Labetalol on schedule.

Next day on PPD 5, her blood pressure is 174/110 HR 62 despite taking Labetalol 400mg an hour ago. Her retake is 168/106, HR 66. Plan: Add Nifedipine 30mg twice daily.

One week later, she continues to have intermittent 150/100 blood pressure, but mainly has 140/80s. (Insert doctor's name here) consulted and Lisinopril 5mg daily added with plan to wean patient's Labetalol.

Lessons: Pay attention to race, as you will want to likely choose an alternative to beta blockers with AA women. Find out if Chronic HTN patients were on antihypertensive medication prior to

pregnancy and what meds. If patients are uncontrolled, return to pre-pregnancy regimen. Pay attention to heart rate (HR) - you may not want to increase Labetalol dose if HR is in 60s.

Situation 2

Situation: 32-year-old Caucasian G1P1 delivered 5 days ago with a diagnosis of Gestational Hypertension. She says her only high blood pressures were when she was in labor and she doesn't think there's anything she should have the diagnosis of Gestational Hypertension. Her blood pressures since delivery have been in the 110s/70s. First day home it was 120/82. Next day her blood pressure is 136/84. On PPD 5, her blood pressure is 158/102 HR 90. She doesn't think the cuff is correct because she feels fine.

You request her to retake her blood pressure taking 2 values 1 minute apart and verify good technique. Her next readings were 162/104 HR 94 and 156/108 HR 92. You explain to her that this is a normal progression of having Gestational Hypertension where blood pressures peak between day 5-10 postpartum

You explain to her that because her blood pressure is over 150/100, it is advised she start a medication called Labetalol to help bring down her blood pressure to a safe range.

She questions the need to start medication when she feels fine, but you explain to her that how she's feeling is a normal response and we do not want to wait until she is having symptoms.

Patient is agreeable. You explain to take Labetalol 200mg twice daily or about every 12 hours. Starting tomorrow, explain to her to take her blood pressure about an hour after her morning Labetalol dose. Explain symptoms to report and reasons to call or report to ED overnight.

Lessons: it is a common reaction to think a patient does not need blood pressure medications because they feel fine. Use the technique to teach the patient that having high blood pressure for a period of time could potentially cause symptoms and we are working to prevent this.

Situation 3

Situation: 26-year-old G1P1 with diagnosis of Gestational Hypertension. Delivered 4 days ago. Blood pressures have been 120/80s until today. BP is 158/102 today with HR 55. Her retake remains high of 154/106. She has no signs or symptoms of preeclampsia.

You recommend that she starts Nifedipine 30mg twice daily. It's 10am, so she likely won't take her first dose until early afternoon. Instruct her to take her second dose late tonight, prior to midnight, and at her preferred schedule tomorrow. Likely 7am and 7pm or 8am and 8pm. She should retake her blood pressure an hour or so after her morning dose.

Do not have the patient retake her blood pressure until the morning. With Nifedipine, it will likely take 3 or more doses to see a great effect. You should also warn patient about developing a headache. Tell them it will likely occur after a few doses and make sure to stay well hydrated and take ibuprofen/Tylenol as scheduled. Their body will eventually get used to the medication and these symptoms should resolve.

The next day, after 3 doses of Nifedipine 30mg twice daily, her blood pressure remains 146/92 with HR 62. Be patient. Do not increase to 60mg twice daily yet, as blood pressure is trending down. Wait until next day. Reassure patient this is normal and it is reassuring to see a trend down with her blood pressure.

On day 6, her blood pressure is 130/80 with HR 84. She's feeling ok. Just tired.

On day 7, her blood pressure is 158/102 with HR 88. She continues to have no signs or symptoms of preeclampsia. Instruct patient to start Labetalol 200mg twice daily. Reassure her that it isn't uncommon to need multiple blood pressure medications to help control her blood pressure. Discuss schedule with Nifedipine, as some women feel dizzy in the hour or so after taking meds at the same time, so if this happens, separate doses by an hour.

Lessons: Be patient with Nifedipine to see results. Pay attention to heart rate. Reassure patient regarding headache with Nifedipine. Seek an alternative if patient cannot tolerate medication. Do not be afraid to start a second medication if needed.

5-WEEK CALL NO ANTIHYPERTENSIVE MEDICATIONS

Patient: Hello?

Nurse: Good afternoon! This is (insert nurse's name), one of the nurses with the Staying Healthy After Childbirth program. I noticed your 6-week postpartum appointment is coming up next week. Do you have a few minutes to discussion program completion and equipment return?

Patient: Sure, yes my appointment is next Wednesday.

Nurse: Great. I'm glad you have that appointment scheduled. How have you been feeling lately?

Patient: Pretty good. I'm starting to get the hang of things and breastfeeding is going much better than it did at first.

Nurse: Oh good! I'm glad to hear. Your blood pressures have been looking great lately. They did increase that first week, but they have been normal in the 110s/70s most recently.

Patient: Yes, I'm feeling much better.

Nurse: Good- going forward, if you plan on any future pregnancies, make sure you're mentioning to your provider right away that you had preeclampsia with this pregnancy, as having preeclampsia once puts you at risk of developing it again in the future. Your provider will likely suggest closer surveillance throughout your pregnancy to monitor your risk of developing preeclampsia again.

Patient: I didn't know that! That's good to know.

Nurse: It also puts you at risk of developing chronic hypertension outside of pregnancy, so if you are not returning to the clinic for pregnancy related visits, make sure you're scheduling a yearly physical, so you can have a blood pressure yearly.

Patient: I'll make sure to do that. Thank you.

Nurse: Do you have any questions about any of that information?

Patient: Where do I take the equipment?

Nurse: As far as equipment return goes, we will send a driver to your house the day of your postpartum appointment if you're ok with that?

Patient: Yes, absolutely. That makes it really easy.

Nurse: Sounds good. Let me confirm your address. I'll also send you a message the morning of pick up as a reminder to set your equipment out for the driver.

Patient: (insert patient's address here)

Nurse: Great. We will monitor your blood pressure through next Wednesday. Prior to your 6-week appointment, we will have a summary of your blood pressures in Epic for your provider to view. Does that sound like a good plan?

Patient: Sounds great.

Nurse: Do you have any further questions?

Patient: No. I think that should do it. I really appreciate all of your help for the past few weeks.

Nurse: No problem. Let us know if we can help in the next week. Have a good day.

Patient: Thanks, you too.

5-WEEK CALL REMAINS ON ANTIHYPERTENSIVE MEDICATIONS

Patient: Hello?

Nurse: Good afternoon! This is (insert nurse's name), one of the nurses with the Staying Healthy After Childbirth program. I noticed your 6-week postpartum appointment is coming up next week. Do you have a few minutes to discussion program completion and equipment return?

Patient: Sure, yes my appointment is next Wednesday.

Nurse: Great. I'm glad you have that appointment scheduled. How have you been feeling lately?

Patient: Pretty good. I'm starting to get the hang of things and breastfeeding is going much better than it did at first.

Nurse: Good to hear. I wanted to confirm you continue to take Nifedipine 30m twice daily?

Patient: Yes, I've been taking it.

Nurse: Typically we decrease your dose when your blood pressure is 110s/70s or better for many days in a row. Your blood pressure is still hanging out in the 130/80s range, so we wouldn't encourage decreasing your dose just yet.

Patient: Yeah, I've noticed my blood pressure hasn't entirely gone back to normal yet.

Nurse: And that's ok. When you've had preeclampsia and required blood pressure medication for high blood pressure, it can take longer than 6 weeks to recover. About 20% of our moms remain on blood pressure medication at the completion of the program.

Patient: Oh that's reassuring to hear I'm not alone.

Nurse: Because you remain on Nifedipine, we refer you to your primary care provider to help manage your blood pressure medication going forward.

Patient: Oh my OB doesn't continue to follow my blood pressure?

Nurse: No, because you could be on Nifedipine for a while, we do refer you to your primary care provider. I will place a referral for you to be seen in the next few weeks, so they can help you with your blood pressure medication.

Patient: I guess that makes sense. I see (insert doctor's name here).

Nurse: Perfect. After we're done talking, I'll place a referral, but it may be good for you to call your primary clinic to make an appointment, as well.

Patient: I'll make sure to do that.

Nurse: Great. I also wanted to talk to you about your health risks going forward. Going forward, if you plan on any future pregnancies, make sure you're mentioning to your provider right away that you had preeclampsia with this pregnancy, as having preeclampsia once puts you at risk of developing it again in the future. Your provider will likely suggest closer surveillance throughout your pregnancy to monitor your risk of developing preeclampsia again.

Patient: I didn't know that! That's good to know.

Nurse: It also puts you at risk of developing chronic hypertension outside of pregnancy, so when you're following up with your primary care provider, you'll want to discuss chronic

hypertension and the importance of having a healthy blood pressure going forward. Having uncontrolled blood pressure will put you at risk things like stroke, organ damage, and heart disease.

Patient: Oh wow. I didn't know that preeclampsia could do that. I thought it was all cured after delivery.

Nurse: Unfortunately, no. That is why making sure to follow up with your primary care provider is so important in order to keep you healthy.

Patient: Ok- I'll make sure to schedule an appointment.

Nurse: As far as equipment return goes, we will send a driver to your house the day of your postpartum appointment if you're ok with that?

Patient: Yes, absolutely. That makes it really easy.

Nurse: Sounds good. Let me confirm your address. I'll also send you a message the morning of pick up as a reminder to set your equipment out for the driver.

Patient: It's (insert patient's address here)

Nurse: Great. We will monitor your blood pressure through next Wednesday. Prior to your 6-week appointment, we will have a summary of your blood pressures in Epic for your provider to view. It will also be available for your primary care provider to view at your follow up appointment. Does that sound like a good plan?

Patient: Sounds great.

Nurse: Do you have any further questions?

Patient: No. I think that should do it. I really appreciate all of your help for the past few weeks.

Nurse: No problem. Let us know if we can help in the next week. Have a good day.

Patient: Thanks, you too.

DOCUMENTATION TEMPLATES - EPIC SMARTPHRASES

1. Enrollment Note
2. Intake Phone Call
3. Nursing Note Heading
4. Medication Titration Note
5. 5-Week Call
6. Summary of Care- Medication Required
7. Referral Reason for Patients remaining on medication at completion

1. ENROLLMENT NOTE

STAC/Remote Patient Monitoring Enrollment

Name: @NAME@

Date of enrollment: @TD@

Enrollment provider: ***

Blood pressure at enrollment: ***

Equipment given: ***

For questions, please contact the STAC office between the hours of 9 and 2pm Monday-Friday and 9-1pm Saturday/Sunday

Phone: 608-417-6346

2. INTAKE PHONE CALL

Staying Healthy After Childbirth; A Postpartum Hypertension Program

Intake Call

Called @FNAME@ for day *** postpartum hypertension call.

Reviewed vitals *** and use of anti-hypertensive(s) ***.

@FNAME@ denied any reports headache, vision disturbances, RUQ pain, increase in swelling, chest pain or shortness of breath.

Informed @FNAME@ that the STAC nurse is available daily from 8a-4p. If there is a need outside of this timeframe that cannot wait until the next day, she is recommended to contact her primary OB provider. Reinforced to report or present to ED if any symptoms occur or call primary clinic for guidance if not during STAC hours.

@FNAME@ understands how to use STAC equipment. She will keep the tablet plugged in at all times. Equipment must be within 30 feet of tablet. She understands to take blood pressure 60-90 minutes after taking antihypertensive medication and is only required to take one blood pressure daily, unless otherwise instructed. Reviewed proper blood pressure technique.

@FNAME@ understands her vitals will be monitored daily until her 6-week postpartum appointment. A summary will be sent to her provider at that time, and she will return equipment. She is aware she may opt out of the program at any time but will return equipment within 5 days.

@FNAME@ verbalizes understanding and agreeable. Will continue to monitor daily as part of Staying Healthy After Childbirth; A Postpartum Hypertension Program.

3. NURSING NOTE HEADING

Staying Healthy After Childbirth Nursing Note:

4. MEDICATION TITRATION NOTE

Per STAC protocol, advised @FNAME@ to {INCREASE/DECREASE:24034} *** to *** mg *** from *** mg ***.

5. 5-WEEK CALL

Staying Healthy After Childbirth; A Postpartum Hypertension Program

5-Week Check-in Call

@FNAME@ is approaching the end of the Staying Healthy After Childbirth; A Postpartum Hypertension Program on ***.

Called @FNAME@ to give instructions regarding equipment return with planning on returning equipment {Equipment Pickup:30953}.

Advised to continue transmitting vitals until this date, as the STAC nurses would continue to monitor vitals and be in contact for concerns or for medication adjustments if applicable. Also informed @FNAME@ that the STAC nurse would create a summary of care that will be available to her OB provider and clinic to review in Epic.

If @FNAME@ is on antihypertensives at the end of the program or requires continued postpartum hypertension services, she was informed that her OB provider will be requested to

resume management and oversight of her medication and hypertensive needs. A referral to primary care will be placed if necessary for further management of antihypertensive medication.

@FNAME@ has her 6-week pp appt on ***. Encouraged her to discuss planning for future pregnancies due to increased risk of postpartum hypertension in subsequent pregnancies with her OB provider. Also discussed that there is some research which suggests women with postpartum hypertension are at higher risk for chronic hypertension in future and should speak with her PCP to customize a monitoring plan for her.

@FNAME@ had no questions at this time, verbalized understanding and in agreement of overall plan.

Summary of Care- No Medications Required

Staying Healthy After Childbirth; A Postpartum Hypertension Program

Summary of Care

@FNAME@ was enrolled in the Staying Healthy After Childbirth; A Postpartum Hypertension Program after delivering on *** and met program eligibility due to diagnosis of ***.

Her last day being monitored in the program is *** and will no longer have her hypertension managed from the Staying Healthy After Childbirth Program after that date. The program requests primary OB clinic resume management at that time.

@FNAME@ was not discharged home on antihypertensive medications. She did not require initiation of antihypertensive medications during the duration of the program.

Her most recent STAC vitals can be seen in the screen shot below.

Also, @FNAME@ scored a "***" on the PHQ-9 screening delivered via STAC questionnaire on ***.

Thank you for the opportunity to care for and monitor @FNAME@.

*** Insert ScreenShot

6. SUMMARY OF CARE- MEDICATION REQUIRED

Staying Healthy After Childbirth; A Postpartum Hypertension Program

Summary of Care

@FNAME@ was enrolled in the Staying Healthy After Childbirth; A Postpartum Hypertension Program after delivering on *** and met program eligibility due to diagnosis of ***.

Her last day being monitored in the program is *** and will no longer have her hypertension or antihypertensives (if applicable) managed from the Staying Healthy After Childbirth Program after that date.

@FNAME@ {was/was not:23490} discharged home on antihypertensive medications. She was discharged home on ***. She remains on ***. A referral has been placed to primary care for continued management of antihypertensive medication.

Her most recent STAC vitals can be seen in the screen shot below.

@FNAME@ scored a "***" on the PHQ-9 screening delivered via STAC questionnaire on ***.

Thank you for the opportunity to care for and monitor @FNAME@.

*** Insert ScreenShot

7. REFERRAL REASON FOR PATIENTS REMAINING ON MEDICATION AT COMPLETION

Patient requires further follow up with primary care regarding antihypertensive medication management following completion of Staying Healthy After Childbirth; A Postpartum Hypertension program.

SECTION D: DIRECT NURSING CARE– MEDICATION MANAGEMENT

Medication List

Oral antihypertensive agents in pregnancy and postpartum

DRUG	DOSAGE	MECHANISM OF ACTION	DURATION OF ACTION (HOURS	SIDE EFFECTS	COMMENTS
1ST LINE					
Labetalol (β-blocker)	100-2,400mg/d in 2-3 divided doses. Commonly start at 200mg twice daily Maximum daily dose is 2400mg	Labetalol is a mixed α-adrenergic and β-adrenergic blocker and the most common β-blocker used inn pregnancy	Onset of actio: Oral: 20 minutes to 2 hours (McNeil 1984); IV: Within 5 minutes (Goa 1989) Peak effect: Oral: 2 to 4 hours; IV: 5 to 15 minutes (Goa 1989) Duratio: Blood pressure response: Oral: 8 to 12 hours (dose dependent) IV: Average: 16 to 18 hours (dose dependent)	>10%: Cardiovascular: Orthostatic hypotension (intravenous: 58%; tablet: 1%) Central nervous system: Dizziness (1% to 20%), fatige (1% to 11%) Gastrointestinl : Nausea (s19%)	Potentia bronchoconstrictio effects: avoid in women with asthma, preexistin myocardial disease, decompensated cardiac functio, heart block and bradycardia
Nifedipine (Calcium channel blocker)	30-120mg/d of extended-release formulatio Commonly start at 30-60mg once daily or 30mg twice daily Maximum daily dose is 120mg, occasionally 180mg	Inhibits calcium ion from entering the "slow channels" or select voltage-sensitive areas of vascular smooth muscle and myocardium during depolarizatio, producing a relaxatio of coronary vascular smooth muscle and coronary vasodilatio; increases myocardial oxygen delivery in patie ts with vasospastic angina; also reduces peripheral vascular resistance, producing a reductio ima-t erial blood pressure	Onset of actio: Immediate release: ~20 minutes Extended release: 2-6 hours	>10%: Cardiovascular: Flushing (IR: 25%; ER: <3%), peripheral edema (4% to 30%) Gastrointestinl : Heartburn (IR: ≤11%), nausea (IR: ≤11%; ER: 3%) Nervous system: Dizziness (IR: 27%), headache (16% to 23%) Neuromuscular & skeletal: Asthenia (IR: 12%; ER: <3%)	Do not use sublingual form Immediate release formulatio shoul d only be used for control of severe, or acutely elevated blood pressures. Avoid with tachycardia (never r tit ate up IR formulatio- c an cause heart attack)

DRUG	DOSAGE	MECHANISM OF ACTION	DURATION OF ACTION (HOURS	SIDE EFFECTS	COMMENTS
1ST LINE					
Hydralazine (Peripheral vasodilator)	10-50mg 3-4 tim s daily Begine with 10mg 4 tim s per day, Maximum daily dose is 200mg	Peripheral vasodilatio Direct vasodilatio of arterioles (with littl effect on veins) with decreased systemic resistance. Although exact mechanism unknown, arterial vasodilatio ma y occur via inhibitio of calcium release from the sarcoplasmic reticl um and inhibitio of m yosin phosphorylatio in arterial smooth muscle cells (McComb 2016)	1-2 hours	In up to 50% of recipients, include reflex tachycardia, hypotension, headaches, palpitatios, fluhi gg , anxiety, tremors, vomitin , epigastric pain, and flud r etentio b y activatio of the renin-angiotensin system	*Most commonly used in IV formulatio f or severe HTN Due to reflex tachycardia, monotherapy with oral hydralazine is not recommended; hydralazine may be combined with methyldopa or labetalol if needed as add-on therapy
Methyldopa (centrallyg actin d pha l agonist) **Not routin ly used despite stil lis ted as a first-line agent	250mg 2e to 3 tims daily, increase every 2 days as needed *The full hypotensive effect of an initia dos e or adjustment of methyldopa may not occur until after 2 to 3 days of continous us e Maximum daily dose is 3000mg	Stiml a tio of central alpha-adrenergic receptors by a false neurotransmitter (alpha-methyl-norepinephrine) that results in a decreased sympathetic o outfl w to the heart, kidneys, and periphe ral vasculature	Onset of actio: Peak effect: Hypotensive: Oral, IV: Single-dose: Within 3 to 6 hours; Multipe -dose: 48 to 72 hours Dura atio: O al: Single-dose: 12 to 24 hours	Sedatio, depression	*Even though listed as a 1st line therapy- it is really never used
2ND LINE					
Hydrochlo-rothiazide (Thiazide diu etic	12.5- 50mg daily Can initiate 12.5-25mg daily or split doses Maximum dose is 50mg daily	Inhibits sodium reabsorptio in the distal tubules causing increased excretio of sodi um and water as well as potassium and hydrogen ions	Onset of actio: ~2 hours, peaks ~4 hours	Dermatologic toxicity- long-term use Electrolyte disturbances Gout	*Use with a loop diuretic or dos e >25mg daily – add potassium supplementatio

DRUG	DOSAGE	MECHANISM OF ACTION	DURATION OF ACTION (HOURS	SIDE EFFECTS	COMMENTS
2ND LINE					
Furosemide (Loop diuretic	20-40mg daily or split doses	Primarily inhibits reabsorption of sodium and chloride in the ascending loop of Henle and proximal and distal renal tubules, interfering with the chloride-binding cotransport system, thus causing its natriuretic effect (Rose 1991)	Onset of action: ~1-2 hours Duration of action 6-8 hours	Kidney injury due to fluid loss (with excessive doses or preexisting volume depletion and or underlying renal disease)	
Ace inhibitor g (Antiotensin-converting enzyme inhibitor) (Preferred: Captopril, Enalapril)	**Captopril** 12.5-25mg 3 times daily Maximum dose: 150mg daily **Enalapril** 5mg daily in 1 or 2 divided doses Maximum dose: 40mg	Competitive inhibitor of angiotensing-converting enzyme (ACE); prevents conversion of angiotensin I to angiotensin II, a potent vasoconstrictor; results in lower levels of angiotensin II which causes an increase in plasma renin activity and a reduction in aldosterone secretion	Onset of action: within 15 minutes (peak BP effect 1-1.5 hours after dose) *May take weeks before full hypotensive effect is seen)	Hypotension Acute kidney injury Hyperkalemia Cough (dry, hacking) *5-20% of patients Angiodema/ anyphylaxis (increase in kinin levels)	*New coughing–need to stop and consider angiotensin II receptor blocker) *Lowest amount in breast milk *Recommended or consider use for patients with proteinuria *Make sure not on any potassium supplementation NEVER USED DURING PREGNANCY- needs contraception if ongoing use postpartum- it is teratogenic
Losartan (Angiotensin II receptor blockers)	25-50mg daily	losartan blocks the vasoconstrictor and aldosterone-secretin effects of angiotensin II	Onset of action: ~ 6 hours	Acute kidney injury if used with renal compromise (high creatinine) Hyperkalemia Edema Pruritis Hypoglycemia Nausea/gomitin UTI's Fatige	*they do not affect the response to bradykinin, and are less likely to be associated with nonrenin-angiotensin effects (eg, cough and angioedema) *Make sure not on any potassium supplementation NEVER USED DURING PREGNANCY- needs contraception if ongoing use postpartum- it is teratogenic

DRUG	DOSAGE	MECHANISM OF ACTION	DURATION OF ACTION (HOURS	SIDE EFFECTS	COMMENTS
2ND LINE					
Other β-blockers • Metoprolol • atenolol	**Metoprolol** (ER is succinate) 12.5-100mg daily (typically in ER formulation) 12.5-100mg daily to twice per day Maximum dose: 400mg daily **Atenolol** 25mg once or twice daily Maximum dose: 100mg per day typically	See above	n/a	See above	See above
Other calcium channel blockers • Amlodipine	Initial dose 2.5-5mg Maximum dose is 10mg daily	See above	See above	See above	See above

*Ace inhibitors are not used during pregnancy

Antihypertensive medication and breastfeeding

Some β-blockers (eg, atenolol and metoprolol) are concentrated in breast milk, resulting in higher levels, whereas propranolol and labetalol with their higher plasma protein binding are not concentrated in breast milk and remain at low levels. Thus, propranolol and labetalol are preferred for treatment in breastfeeding women. Angiotensin-converting enzyme inhibitors (eg, enalapril and captopril) concentrations in breast milk are low, and these drugs may be used safely during breastfeeding unless high doses are required. No adverse effects are known to occur with calcium channel blockers during breastfeeding. Although the concentration of diuretic in breast milk is low, these agents may reduce the quantity of milk production.

SECTION E: OTHER

- Brochures
    - Customizable
    - Example
- 1-pager patient flyers and hospital flyers
    - For patients
    - For hospitals
- Logo

- Video links
    - https://www.youtube.com/playlist?list=PLBjM-lAJvc3SQ5KXiHZrXWkNMSTPCDDb8
- STAC Website Link
    - http://www.stacathome.org

Enrollment Script (Medical Assistant)

Introduce Yourself
Introduce the program: Staying Healthy After Childbirth

- For new mothers aged 13 years old or older
- Is within 2 weeks postpartum
- Has a hypertension-related diagnosis made in the antenatal and/or postpartum period
- Speaks English, French, or Spanish (the tablet accommodates these languages)
- Ability to communicate with STAC team daily over phone
- Sent home with a "kit" includes Tablet and Blood Pressure cuff and machine
- Replaces having to go in for blood pressure check at their clinic
- Take vitals before 1 PM daily (take 2 readings, 1 minute apart)
- 1 hour after blood pressure medication
- 30 minutes after caffeine/nicotine/exercise
- Readings are transmitting automatically to PP STAC nurses
- Nurses monitor EVERY DAY 8am-4pm
- Nurses communicate via call or text message
- Have ability to recheck and adjust medications
- 24-48-hour Initial call ("intake call")
- Program is free unless you do not return the equipment
- All communication for STAC is via phone (NO IN PERSON VISITS)

Have patient sign the consent/equipment check out form

Verify Patient Understanding

- Patient will be submitting their vitals every day before 1 PM for 6 weeks. Vitals consist of blood pressure and heart rate.
- Vitals are NOT continuously monitored. The nurses check submissions once per day. If they are submitted past monitoring period, they may not be assessed until the next day.
- Patient is responsible for contacting her primary OB provider should she have symptoms to report and are unable to reach STAC nurse or symptoms unrelated to blood pressure.
- The nurses will manage initiating, decreasing and maintaining medication management of their anti-hypertensives once discharged from the hospital throughout the duration of the program.
- No news if good news. The nurses will be in touch when BP indicates med needs to be started, decreased, increased or stopped. Their first step will be to call or text to request a 're-test' to ensure accuracy of the BP in question.
- If the patient needs to get ahold of a nurse, they can answer "yes" on the tablet when asked if they "need their STAC nurse to contact them today," or they can text them in a group text message. Whomever is monitoring that day will be able to reply.
- Mothers who are in this program do not need to be seen in the clinic for their blood pressure, but they still need to be seen for wound checks and/or other non-BP related visits.

Inventory Management

- Inventory Management System
  - Maintain warranty information and dates
- Tips to maintain active inventory
  - Contact patient via phone call after 3 days of no participation. Contact clinic if unable to reach patient
  - After 5 days of no participation, contact patient for equipment return
- Utilize courier system, clinic return, or direct pick up with FedEx/UPS
- Create line of communication between nursing staff and enrollment staff regarding equipment issues/broken equipment

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