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Home Blood Pressure Monitoring Pamphlet

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Home Blood Pressure Monitoring Pamphlet

UVM Medical Center Family Medicine Clinic

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MD Candidate, 2017

University of Vermont College of Medicine

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Mentor: Dr. Whitney Calkins

WHY SHOULD WE CARE?

1 in 3 people have high blood pressure. That's 70 million American adults



High blood pressure was a primary or contributing cause of death for more than **360,000**

Americans in 2013—that's nearly **1,000 deaths each day**.



52% Only about half people with high blood pressure have their condition under control

Having high blood pressure puts you at risk for **HEART DISEASE and STROKE**, which are leading causes of death in the United States



High blood pressure costs the nation

\$46 billion

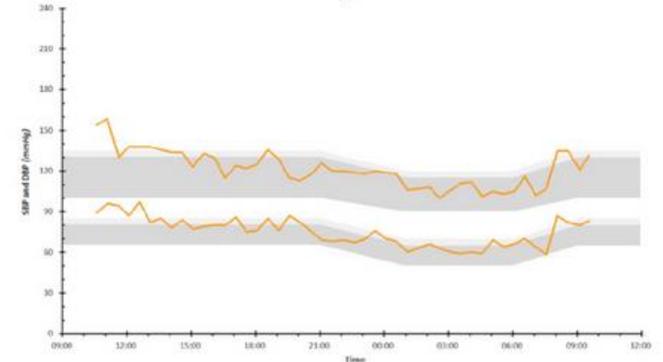


each year. This total includes the cost of health care services, medications to treat high blood pressure, and missed days of work.

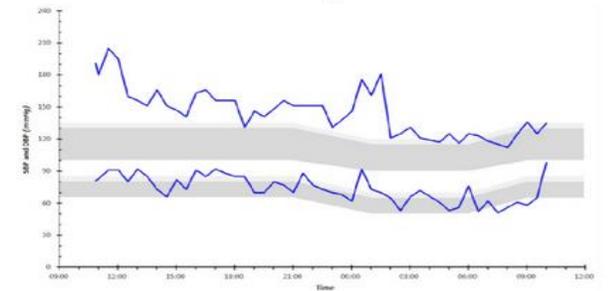
What is home blood pressure monitoring for and why is it important?

- Home blood pressure monitoring is usually prescribed to confirm or rule-out diagnoses, make a diagnosis, avoid misdiagnoses (essential hypertension instead of white coat hypertension), monitor response to treatment or simply monitor blood pressure patterns.
- identifying white-coat hypertension can obviate the need for unnecessary drug manipulations or searches for secondary forms of hypertension. In conclusion, ABPM not only prevents misdiagnosis and promote better BP control but it also cuts down long-term costs and spares the patients from the unnecessary psychological impact of the diagnosis.
- Research has shown that in patients aged 60 years or more, the prevalence of hypertension is overestimated when BP status is assessed with office BP instead of ambulatory BP measurement (ABPM). **1 in 15** patients diagnosed as being hypertensive according to office BP, would be considered normotensive when ABPM is used, suggesting an **overdiagnosis** when clinic BP is used alone. The majority (**51%**) of the patients diagnosed as hypertensive with office BP had white-coat hypertension, which was eliminated with ABPM.
- People who use ABPM were shown to have **better blood pressure control** than those who only use the office BP (**54% vs 37%**)
- This research and others suggests that patients with white-coat hypertension are overtreated, patients with masked hypertension are undertreated, and patients with threatening profiles, such as nocturnal hypertension can be left unidentified.

O'Brien E, Dolan E, Atkins N. Failure to provide ABPM to all hypertensive patients amounts to medical ineptitude. *J Clin Hypertens (Greenwich)*. 2015;17:462-465.



Description	White-coat hypertension
OBP	152/91 mmHg
1st ABPM Meas.	154/89 mmHg
Mean Daytime BP	128/82 mmHg
Mean Night-time BP	106/62 mmHg



Description	Masked isolated systolic hypertension with white-coat effect
OBP	130/70 mmHg
1st ABPM Meas.	191/81 mmHg
Mean Daytime BP	152/80 mmHg
Mean Night-time BP	132/64 mmHg

Why do we need a handout for home BP monitoring?

Home blood pressure monitoring is an important, and relatively inexpensive way of looking for the etiology of elevated blood pressure in the office. It is also used as a tool for hypertension management.

Written instructions on proper BP measurement at home is currently lacking at the UVMHC South Burlington Family Medicine site and other affiliated sites. A home blood pressure monitoring handout can serve as another opportunity for hypertension control.

Its utility as a diagnostic tool is dependent on proper BP measurement techniques. The HBPM will hopefully encourage the proper utility of the device.

HBPM encourages the patient to take control of their own health and it facilitates a discussion with their physician



Community Perspective and Support from Project

PATIENT AND HEALTHCARE PROVIDER ANECDOTES

I'm scared of what it may say

I don't know how

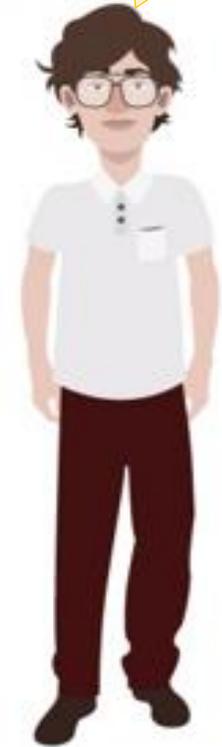
Problem with access to a BP monitor

Patients need to know the importance of HBPM

Inconsistency of taking home BP

I don't want to be on a medication

Lack of blood pressure education



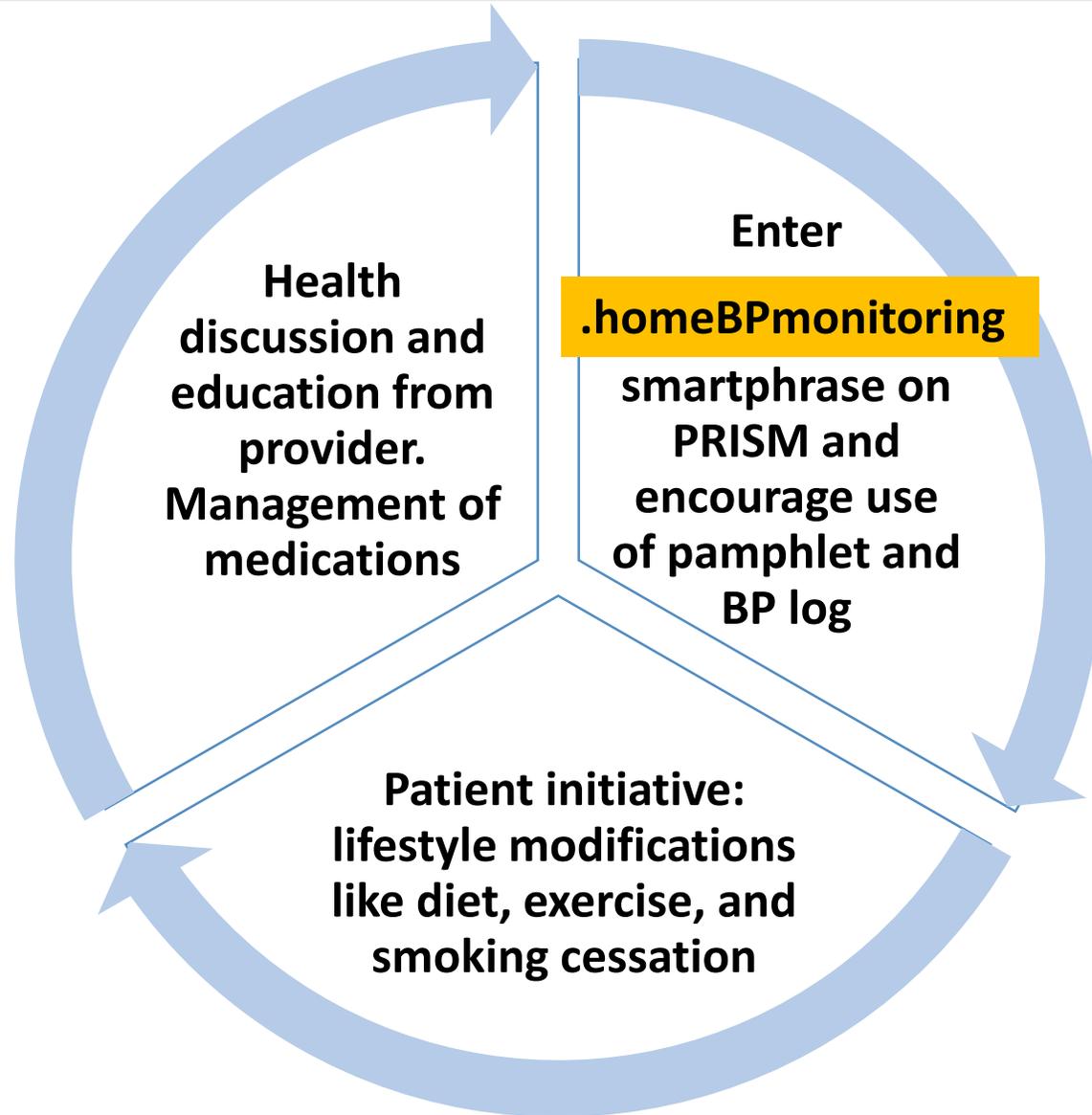
Community Perspective and Support from Project

- In your experience, what are the barriers to blood pressure monitoring in patients? Access to a BP monitor? Awareness about the complications of elevated blood pressure? Inadequate information or unclear instructions on home BP monitoring? **[Farnham, Pamela H.]** having access to a monitor and then taking the time to do it daily, same time etc.
- Patients need information that they can easily read and is readily accessible to them. **[Wechsler, Judy.]**
- “The most common things that I heard from patients is that they don’t like taking their blood pressure everyday and that they don’t know how exactly to work the machines” – RN 1
- “Some of them do not know where to get the BP monitor. And some are worried about the price” – RN 2

What about the cost?

These instructions will be accessible using the smartphrase **.homeBPmonitoring** on PRISM. The document will then be automatically printed for the patient at the end of the encounter. OR a pamphlet will be given to the patient at the end of the encounter at **no cost.**

Intervention and Methodology



Recommendations for future interventions/projects

- Study patient blood pressure follow-up and assess adherence to home blood pressure monitoring by looking at patient BP logs
- Assess barriers to home blood pressure monitoring based from the feedback from patients and providers.
- Assessment of long-term outcomes of home blood pressure monitoring
 - Trend the rate of hypertension diagnosis after implementation and encouragement of home blood pressure monitor use
 - Determine prevalence of hypertension diagnosed by HBPM (not observed in the office setting)

Evaluation of effectiveness and limitations

- Evaluation of effectiveness of patient home blood pressure monitoring initiation and adherence is dependent on and at the same time limited by variations in:

**provider-to-patient
education**

patient initiative

**access to home
blood pressure
monitor**

- Evaluation of effectiveness is determined by patient adherence to home blood pressure monitor checks evidenced by the blood pressure logs which they must bring to their follow-up visit with their providers.
- Although HBPM is helpful in ruling out white coat hypertension, it has been reported that patients with white-coat hypertension can have increased activity of their renin-angiotensin and sympathetic systems and are more likely to exhibit insulin resistance and lipid abnormalities as well as early hypertrophic changes in their left ventricular walls. Therefore these patients may need closer monitoring in the future; “normal” ambulatory monitoring result does not justify the avoidance of treatment and evolution into essential hypertension is common.
- Caution must be exercised if using home blood pressure monitoring as a treat-or- don’t treat tool. Current data suggests that treating patients with white-coat hypertension with antihypertensive drugs provides them with meaningful cardiovascular protection.

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Interview Consent Form

Thank you for agreeing to be interviewed. This project is a requirement for the Family Medicine clerkship. It will be stored on the Dana Library ScholarWorks website. Your name will be attached to your interview and you may be cited directly or indirectly in subsequent unpublished or published work. The interviewer affirms that he/she has explained the nature and purpose of this project. The interviewee affirms that he/she has consented to this interview. Yes _____ / No _____

If not consenting as above: please add the interviewee names here for the department of Family Medicine information only.

Name: _____