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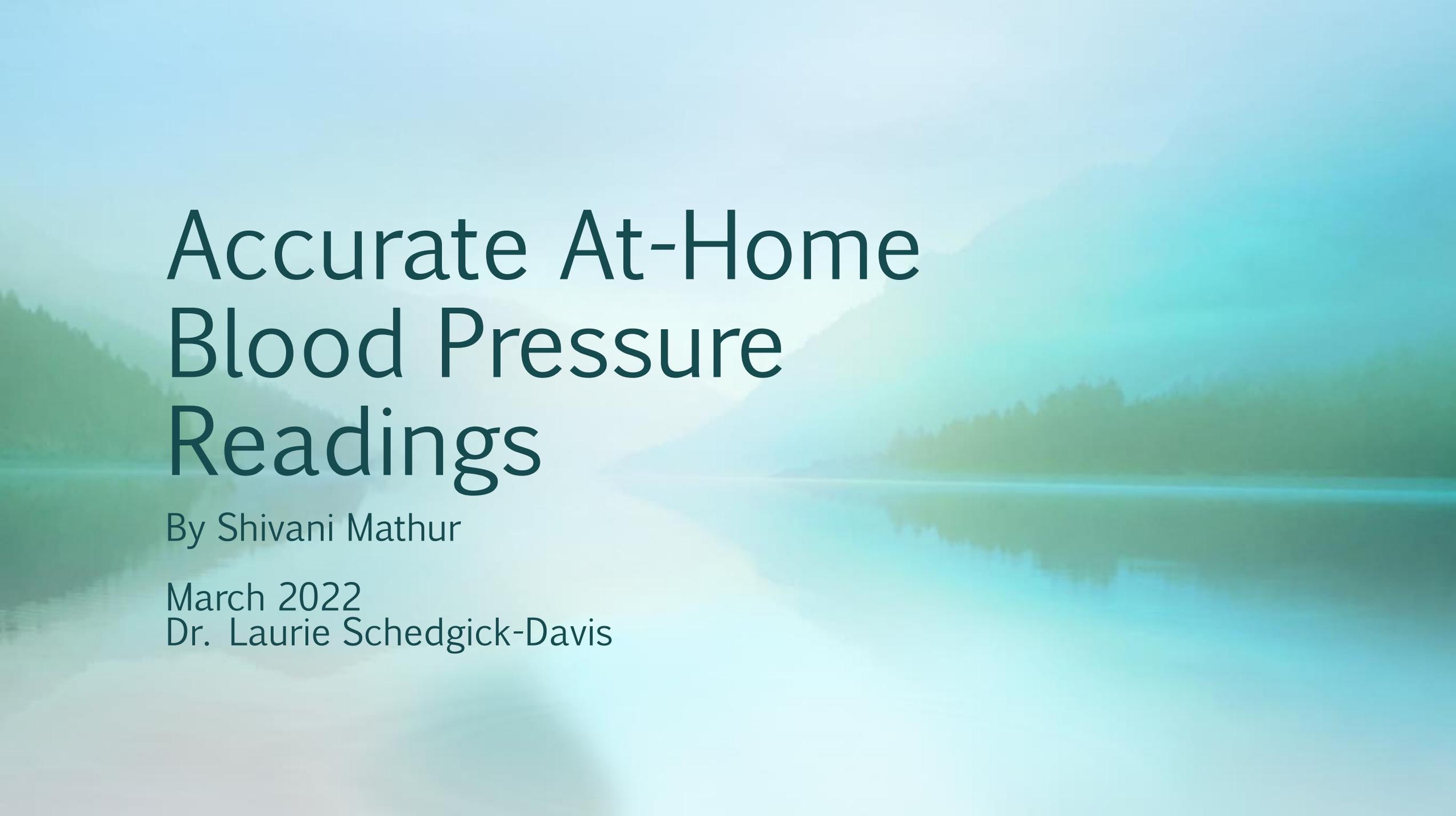
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Recommended Citation

Mathur, Shivani and Mathur, Shivani, "Accurate At-Home Blood Pressure Readings" (2022). *Family Medicine Clerkship Student Projects*. 769.

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Accurate At-Home Blood Pressure Readings

By Shivani Mathur

March 2022

Dr. Laurie Schedgick-Davis

Blood Pressure Monitoring at Home

- Blood pressure follow-ups are some of the most common reasons for clinic visits
- Patients are told to monitor their blood pressures at home and medication dosages are adjusted in clinic to reflect their blood pressure readings at home
- However, many patients are not aware of proper blood pressure measurement techniques, which could lead to inaccurate readings and therefore, inaccurate treatment

Public Health Cost

- High blood pressure, a preventable and treatable condition, costs the nation about \$131 to \$198 billion each year, including the cost of health care services, blood pressure medications, and loss of productivity from premature death²
- Nearly 1 in 2 Americans have high blood pressure, but only 1 in 4 have their condition under control²
- Self-monitoring BP is the most effective way to diagnose high blood pressure and evaluate response to treatment³
- However, at-home blood pressure monitoring even with popular automated devices require proper technique for accurate readings

Community Interviews

- Interview 1 (Patient presenting for blood pressure check):
- “I don’t have a routine before measuring blood pressure. I always sit in the same spot because of where I store it. I always try to get it [the cuff] the right way and make sure my arm is the right way. But I didn’t know about some of those rules [avoiding caffeine, not crossing legs, emptying bladder etc.]. I don’t speak and don’t cross my legs, but I didn’t know about all those rules.”

- Interview 2 (Dr. Laurie):

In response to “What is one of the main issues you see patients face when measuring blood pressure?”

“Making time to do it. Some people are fantastic at doing it. Other people don’t think or don’t remember to do it. A lot of people have blood pressure cuffs at home and don’t know how to use them.”

Intervention and Methodology

- Project Aims
 - Understand the community's current understanding of what at-home blood pressure monitoring means
 - Ascertain what interventions can help patients more accurately take their blood pressure
- Outcomes
 - A simple infographic could be useful for patients to understand proper at home blood pressure monitoring techniques
 - Infographic was made with information from AAFP

Proper Blood Pressure Measurement

01

30 MIN BEFORE

Avoid caffeine, exercise, nicotine, and other stimulants 30 minutes before the reading

Empty your bladder and rest quietly (no talking or texting)

02

5 MIN BEFORE

03

POSITIONING

Wrap the cuff snugly on your bare arm. Rest your arm on a flat surface with your upper arm at the level of your heart

Sit with your back supported, legs uncrossed, and feet flat on the floor

04

POSTURE

05

BLOOD PRESSURE

Don't speak until your measurement is over. Don't forget to write both numbers down!

Limitations

- Type of equipment: most patients have questions about what cuff to buy. Since examination is always limited by equipment, doctors can recommend a few that they have found to be accurate.
- Can make recommendations specific to taking medications prior to or after readings, as some medications can have stimulant or depressant effects

Recommendations for Future Work

- Future projects can be materials-based (i.e. what cuff to buy)
- Consider a more streamlined way to collect blood pressure readings. MyChart currently doesn't allow for patients to enter their own readings in, but this could be very useful for the clinician to track their progress without a patient bringing in readings on a piece of paper.

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Consented

Name: Laurie Schedgick-Davis

Name: Catherine Kirnenoon-Boon