

# Williston, VT: Increasing the Awareness of Hypertension Implications and Sequelae

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Thomas Chittenden Health Center

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# BP Classification

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**Table 1. Classification of Blood Pressure for Adults Aged  $\geq 18$ .**

<b>Category</b>	<b>Systolic Blood Pressure</b>	<b>Diastolic Blood Pressure</b>
Normal	<120	<80
Pre-hypertension	120-139	80-89
Hypertension-Stage I	140-159	90-99
Hypertension-Stage II	$\geq 160$	$\geq 100$
Hypertensive Urgency	>180	>120
Hypertensive Emergency	>180	>120 and target organ damage

Adapted from Chobanian, 2003.



# Problem Identification

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- **Hypertension** is the **most common** reason for office visits in United States and for the use of prescription drugs.
- **Complications** include left ventricular hypertrophy, heart failure, ischemic stroke, ischemic heart disease, intracerebral hemorrhage and renal disease
- ~**29-31%** of **adults** in the US have hypertension (1 in 3 American adults)
- ~**8%** of adults in the US have **undiagnosed** hypertension
- ~**2%** in ages of **adolescents** have hypertension

# Public Health Costs

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- In **2011**, total costs assoc. with hypertension in the US were ~**\$46 billion** in health care services, medications and missed days of work
- In **2010-2030**, annual costs directly attributable to hypertension are projected to **increase ~\$130.4 billion**
- In **2010-2030**, total direct medical costs of cardiovascular disease (hypertension being the most expensive component) are projected to **triple** from **\$272.5 billion** to **\$818.1 billion**
- **Primary prevention** of hypertension provides an opportunity to break the costly cycle of managing its complications



# Community Perspective

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- Maryanne Kyburz Ladue, MNT
  - Maryanne is a Registered Dietitian/Nutrition Professional and Certified Diabetes Educator at the Thomas Chittenden Health Center
  - She estimated that ~70% of her patients have HTN and ~20% of her hypertensive patients have uncontrolled HTN due to **non-compliance**
  - She believes the best way to improve blood pressure regulation is **patient education** and is hopeful that this project can attribute to **better health outcomes**
- Dr. Charles Maclean, MD
  - Dr. Maclean is the Associate Dean for Primary Care in the Department of Medicine at UVM and is currently involved with a hypertension project funded by the health department
  - Due to lack of **patient education**, he estimated that ~50% of his hypertensive patients truly understand the diagnosis and its complications
  - Dr. Maclean advocates that this project can help to not only increase hypertension **awareness** but also **patient compliance**

# Intervention

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- **Literature review** on the implications of hypertension with incorporation of pertinent facts into a concise, informative handout
- Implementation of an **educational handout** will provide an overview of hypertension as well as treatment options, prevention methods and resources to help maintain health and wellness.
- **Goal** of intervention is to improve patient compliance and health outcomes by increasing awareness of the implications of high blood pressure and its complications



# Results

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- The response from the physicians, nurse practitioners and physician assistants at the Thomas Chittenden Health Center were **very positive**.
- Healthcare providers believe that the handouts are **concise and convenient** enough for patients to easily comprehend the information in a timely manner.
- **Informational handouts** were placed in waiting areas for patients to read prior to appointments or to bring home after appointments
- **Electronic copy** was also made available for the office for emailing purposes and could potentially be attached to electronic follow-up appointment reminders

# Effectiveness and Limitations

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- Handouts are available in areas most **convenient** and **obvious**
- By minimalizing medical jargon and condensing pertinent facts, handouts are effectively more **patient-friendly**
- Patient interest, curiosity and literacy are **limiting factors**
- **Method efficacy** could potentially be reflected by an increase in the number of patients with blood pressure improvements over time through EMR (electronic medical records) reporting which unfortunately cannot be measured due to project time restraints



# Future Recommendations

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- **Track** the number of hypertensive patients with blood pressure improvements
- **Generate EMR reports** on the number of hypertensive patients with blood pressure improvements prior to implementation and after implementation
- **Encourage physicians** to be more vigilant about hypertension and use project handouts when applicable

# References

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# Interview Consent Form

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- 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   X   / No