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Strategies for Clinical Management of Hypertension: Understanding Community Perspectives

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Family Medicine

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Problem Identification

- According to the CDC About **1 in 3** American adults have hypertension and **2 in 3** have either hypertension or prehypertension
 - Of the over 75 million people with hypertension, only 54% have their blood pressure under control
- In 2014 Hypertension was linked to more than 410,000 deaths nationwide
 - Hypertension is a risk factor for cardiovascular, cerebrovascular and renal disease and the main contributor to **lethal cardiac events**
- With **31.1%** of adults with hypertension in 2016, **Vermont** is about at the national average according to Healthy Americans Initiative
 - That constitutes an estimated 174,292 people, with roughly **80,000** people who not have adequate blood pressure control
- While **Chittenden county** has some of the highest levels of education, income and highest per capita primary care providers in the state, the rates of **hypertension remain average**
- A 2007 study in the Journal of Clinical Hypertension asserted that **vigorous clinical management** was the most important contributor to blood pressure control
 - However, family practice physicians have median visit lengths of about **16 minutes** during which time **6 topics** are typically covered, leaving precious little time for adequate clinical management
- *The problem being addressed is this: how can we utilize clinical management to improve health literacy and compliance in patients with hypertension without over burdening physician time.*



Public Health Cost

- Direct and indirect costs of hypertension reach over **\$48.6 billion** annually in the United States.
- It is estimated that patients with hypertension who were hospitalized with heart or cerebrovascular disease cost between **\$1133-\$3540 more** per hospitalization than those without hypertension.
- Just a **5 percent reduction** in hypertension would result in **\$5 billion** saved annually according to the CDC.
- The highest rate of expenditures is for individuals over age 65
 - In **Vermont**, adults older than **65** were much more likely than younger adults to have hypertension (53% vs 19%) and hypertensive associated cardiovascular disease (24% vs 10%)
 - Within **Chittenden County**, the fastest growing population includes those over 65
- There are **34 million** office visits with hypertension as the primary diagnosis every year according to CDC calculations

Annual Cost of Outpatient Hypertension Management vs Hospitalization for Hypertension Associated Complications	
<u>Condition</u>	<u>Cost</u>
Hypertension Management	\$733
Myocardial infarction	\$18,200
Congestive heart failure	\$10,500
Intracranial injury	\$18,000
Coronary artery disease	\$16,500



Community Perspective

Dr. McCray	Dr. Bazel
<i>Do your patients understand the consequences of high blood pressure?</i>	
In theory yes, I go over the consequences in detail during the first visit but I'm not sure how much of it sticks	I don't know but I do go over it and if I order additional testing I explain why I am ordering each additional test and what organ system I'm concerned might be damaged by HTN
<i>How much time can you dedicate to each patient if their BP is not at goal?</i>	
10 minutes	20 minutes
<i>Are you able to address HTN medications, risks, and alternatives during a visit?</i>	
Not usually during a routine visit	For the most part
<i>Do your patient's take their blood pressures at home and would they understand the results?</i>	
Extremely variable; I'm not sure	Probably about 50% of patients; I can't say but I don't think most of them could
<i>Do you feel there is a role for nursing visits for hypertensive clinical management?</i>	
Absolutely, although nursing is often reluctant to spend time	Yes, it is hard to bill for them but they can be very useful for monitoring effectiveness of dose adjustments
<i>Do you think your hypertensive patients use their My Health Online Portal?</i>	
Maybe a small percentage, most of my practice is geriatric and don't use the portal	Some of them use it, some of them send me their BP readings through the portal



Intervention and Methodology

Goals:

- Gauge the level of patient knowledge about hypertensive management and interest in alternative approaches to physician visits.
- Explore other avenues for clinical management including My Health Online portal patient reminders and nurse visits.

Methodology:

- Survey was administered to 20 patients with controlled and uncontrolled hypertension in an outpatient family medicine office
- Results tabulated
- No identifying data was recorded

Intervention:

- Analyze hypertensive patients' knowledge of their disease and gauge interest in alternatives to one on one physician visits.
- Devise recommendations for future interventions based on analysis.



Results and Response

Community Perspective

- Only 25% of patients were able to correctly identify the effects of high blood pressure
 - Of these individuals, 100% were able to identify important steps that could help lower blood pressure
- Of those who took their blood pressure outside the office, only 45% were able to name a target blood pressure
- Of those who felt they had adequate knowledge of their disease *and* were able to identify all risk factors correctly, 100% felt their blood pressure was well controlled
- 70% of patients felt that their blood pressure was controlled or somewhat controlled
 - Of those who felt that their blood pressure was uncontrolled only 33% felt that they had adequate knowledge to manage their blood pressure

Perceived Benefits

- 40% of respondents believed they would benefit from additional support to manage hypertension
 - Of these patients, 100% felt that they would benefit from additional office visits
 - 50% believed nursing visits would be helpful in controlling blood pressure
 - 50% believed physician visits would be helpful in controlling blood pressure
- Only 15% of all patients indicated that My Health Online reminders about blood pressure would be helpful



Results and Response Continued

Community Perspective

- There appears to be a lack of knowledge surrounding blood pressure goals and the effects of uncontrolled hypertension
- Those who were able to correctly name blood pressure goals *and* effects of hypertension felt that their blood pressure was well controlled
- The vast majority of those with uncontrolled blood pressure felt that they needed more knowledge to better control their hypertension
- *This indicates that increased knowledge of blood pressure goals leads to better perceived control*

Perceived Benefits

- A significant portion of the studied population perceive benefit from additional assistance with high blood pressure
- These individuals felt that they would benefit from additional visits with providers, both physicians and nursing staff
- Limited interest in the My Health Online portal compared to provider visits suggests that individuals perceive added benefit from face to face interaction



Evaluation of Effectiveness and Limitations

Evaluation of Effectiveness

- Assessing the effectiveness of this project could be done by re-administering the survey to the same or similar patient population and comparing the results to see if similar percentages and trends were upheld. Additionally, the assumptions of the analysis could be tested by implementing additional patient education and determining if perceptions of blood pressure control increased.

Limitations

- Despite efforts to keep the survey length 10 questions or less, there were still a high degree of patients who did not complete the survey during this short 5 week period.
- The survey has inherent bias for patients who are already invested in their health as they have come into the office for a physician visit. It therefore ignores those individuals who do not routinely come in for blood pressure monitoring.
- This study was heavily qualitative and relied on perceptions of blood pressure control and beneficial interventions instead of quantitative



Future Follow Up

The results outlined provide various opportunities to pursue increasing patient understanding of blood pressure.

- **Since patient education is linked to control of hypertension:**
 - A short questionnaire at primary care offices could help identify patients who feel that their hypertension is not well controlled
 - After identifying individuals at high risk, establish sessions with nursing staff to increase patient education
 - Large group sessions could help inform large groups of patients without burdening physician and nursing time
 - Since this study only focused on patients that were coming in for visits, it would be advantageous to reach out to those with hypertension who do not regularly come in for appointments.
- **Long term**
 - This study is part of an ongoing project looking at new and better ways to address hypertension in the outpatient setting. The data collected could help targeting populations who could benefit from a hypertension education handout created during a colleague's community health project.



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