Methodologies to Advance Health Equity

**INTRODUCTION**

Hypertension is the leading modifiable cause of cardiovascular disease morbidity and mortality worldwide and disproportionately affects Blacks.\(^1\,^2\) Shared decision making (SDM) has increasingly become appreciated as a method to enhance patient involvement in health care decisions, patient-provider communication, and patient-centered care.\(^3\) While many definitions of SDM exist, it can broadly be described as a process by which patients and health care professionals work together to make health care decisions based on the best available clinical evidence and the patient’s values and preferences.\(^4\) The 2017 American College of Cardiology/American Heart Association Blood Pressure (BP) Clinical Practice Guideline notes that, “Adherence to recommendations can be enhanced by shared decision making between clinicians and patients, with patient engagement in selecting interventions on the basis of individual values, preferences, and associated conditions and comorbidities.”\(^5\) Moreover, the US Preventive Services Task Force (USPSTF) recommends that primary care practitioners screen for high BP in adults aged >18 years (grade A recommendation) and obtain measurements outside of the clinical setting for diagnostic confirmation before starting treatment.\(^6\) Given that hypertension is one of the most common conditions managed in primary care, future opportunities for SDM in hypertension may include home and ambulatory BP monitoring, in-

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**Partnerships to Improve Shared Decision Making for Patients with Hypertension – Health Equity Implications**

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dividualized BP targets, antihypertensive medication selection, and integration of lifestyle interventions.\textsuperscript{7-9}

**Shared Decision Making as a Potential Way to Improve Health Equity**

Between 2015-2016, only 48.3% of US adults with hypertension had their BP controlled.\textsuperscript{10} Moreover, the prevalence of BP control was lower in Hispanic (45%), non-Hispanic Black (44.6%), and non-Hispanic Asian adults (37.4%), compared with non-Hispanic White adults (50.8%).\textsuperscript{10} Newer models of SDM recognize that patient preferences should play a key role in decision making and that final health care decisions should reflect patient preferences.\textsuperscript{11} Racial/ethnic differences in treatment preferences have been established across various health conditions; however, the association between patient preferences and health disparities is less clear.\textsuperscript{12,13} Moreover, little is known about the impact of preference concordance on adherence to treatment plans for hypertension. It is possible that preference concordance is less common in the groups most affected by health inequities (eg, racial/ethnic minorities) and thus, may partially explain suboptimal BP control.

Although not typically conceptualized as a preference-sensitive decision, we argue that hypertension management is well-suited for SDM because many reasonable pharmacological and non-pharmacological treatment options exist,\textsuperscript{5,14} and each option has different trade-offs, risks, and quality of life implications that may be valued differently by patients (Table 1). For example, some hypertension-related decisions may have physical (medication side effects), psychological (health anxiety from constant tracking of BP and/or behaviors), emotional (fear of falling due to polypharmacy) and/or financial (cost of medications and/or lifestyle interventions) consequences. Moreover, these consequences may differentially affect certain patient subgroups and thereby affect adherence to treatment plans.\textsuperscript{15-17}

**Examples of Hypertension-Related SDM Interventions**

Compared with cancer, the literature on SDM in hypertension is more limited.\textsuperscript{18-20} This may be due, in part, to the fact that hypertension management is dynamic and often involves a series of decisions made over months or years, whereas some cancer-related decisions are discrete and made within weeks or months (eg, mastectomy vs a lumpectomy with radiation for women with early stage breast cancer).

Nevertheless, there is evidence

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**Table 1. Shared decision making scenarios for patients with stage-1 hypertension**

<table>
<thead>
<tr>
<th>Patient Vignette</th>
<th>Health Care Team Member(s)</th>
<th>Possible Options</th>
<th>Preference-Concordant Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brandy is a 45-year-old woman. She generally prefers nonpharmacological therapies; however, she shares that she will not have time or the discipline to make major lifestyle changes during the holiday season (ie, overhauling her diet and adding an exercise routine). For now, she wants the quickest option for lowering her blood pressure. She wants to avoid “water pills” because of what she read online about their side effects.</td>
<td>Physician</td>
<td>Antihypertensive medication; sodium reduction</td>
<td>Sodium reduction and 1 antihypertensive (ie, calcium channel blocker; not a diuretic)</td>
</tr>
<tr>
<td>Diego is a 34-year-old man. He reports high levels of stress because of his job, long commute, and commitment to mentoring students. Diego routinely orders takeout food and is overweight. In addition to hypertension, he has prediabetes. His favorite uncle died last year of a heart attack, so Diego is ready to focus on his health. Diego is worried about taking hypertension medications because “they cause erectile dysfunction.”</td>
<td>Nurse practitioner; registered dietitian</td>
<td>Diet change: structured weight loss or physical activity program; antihypertensive medication</td>
<td>DASH diet and smartphone app with exercises that can be done at home</td>
</tr>
<tr>
<td>Deborah is a 62-year-old woman. She shares that she takes care of her mother who has Alzheimer’s. Deborah is stressed emotionally and financially. She admits to drinking alcohol to help her cope. She is not overly concerned about her blood pressure because she “doesn’t feel sick.” Deborah asks about HTN management programs in her community. She is worried about the risk of falling if her blood pressure is treated too aggressively.</td>
<td>Physician; pharmacist; social worker</td>
<td>Diet change; physical activity; antihypertensive medication</td>
<td>Reduce alcohol intake and participate in HTN management program offered at a church near her home; referral to behavioral health services</td>
</tr>
</tbody>
</table>
that SDM can have a positive impact on hypertension control,\textsuperscript{21–23} patient preferences for treatment choices,\textsuperscript{24} and medication adherence.\textsuperscript{25} For example, Olomu et al evaluated the impact of a SDM intervention on BP control in 243 patients recruited from two federally qualified health centers in Michigan.\textsuperscript{21} The intervention included a physician training, patient activation session, and 1-page checklist used during primary care visits. They found that BP control was greater at six months for patients in the intervention site compared with the control site (OR=2.92, CI: 1.11-7.79). Hanlin et al evaluated hypertension control for 714 underserved patients (49.9% Medicaid and 50.2% Black) at a family medicine clinic in South Carolina using the “Measure Accurately, Act Rapidly, and Partner With Patients (MAP)” protocol.\textsuperscript{22} The ‘Partner with Patients’ aspect involved SDM, discussions about affordable medications, BP self-monitoring, and reducing pill burden. They found that BP control increased from 89.9% to 89.9% \textit{(P<.0001)} between baseline and the last study visit. The MAP protocol was further evaluated in 16 family medicine clinics. In hypertensive adults with complete baseline and 6-month visit data (N=16,787), BP control improved from 64.4% at baseline to 74.3% \textit{(P<.001)} at 6 months and 73.6% \textit{(P<.001)} at 12 months.\textsuperscript{23} More broadly, Margolis et al explored the impact of a home BP telemonitoring with pharmacist case management intervention to improve BP control compared with usual care. The sample included 450 patients from 16 primary care clinics in Minnesota.\textsuperscript{8} Overall, intervention group patients had better BP control over time. For example, at 18 months, BP control was observed in 71.8% of patients in the telemonitoring intervention group compared with 57.1% of patients in the usual care group (\textit{P=.003}).

**Implementing Shared Decision Making in Different Contexts**

Given the dynamic nature of hypertension management and growing trend toward team-based care,\textsuperscript{26} there are emerging models for how hypertension-related SDM could be realized in the future. For example, Project ACTIVE tested the effectiveness of a clinical intervention to personalize and prioritize USPSTF grade A or B preventive care recommendations for non-pregnant women.\textsuperscript{27} Patients were recruited from a busy inner-city ambulatory care clinic in New York (N=140); the study involved six study visits over nine months. The two main outcomes were estimated gains in life expectancy (based on a validated mathematical model) and changes in unfulfilled clinical goals. Personalized graphical displays of estimated health gains from adherence to preventive care guidelines were generated for patients in the intervention group. A nurse practitioner communicated results to intervention patients and engaged them in an SDM process to identify and prioritize the preventive health goals they wanted to achieve. Subsequently, a health coach met with patients to set personalized action steps aligned with their goals and to be completed by the next study visit. Overall, intervention patients had an average of 21.04 months estimated gain in life expectancy compared with 4.52 months estimated gain in life expectancy for control patients. Project ACTIVE appears to be providing its benefit by improving control of hypertension and other key outcomes (eg, hyperlipidemia).

Other established SDM strategies may also be informative for hypertension management.\textsuperscript{11,28,29} For example, Elwyn’s Three Talk Model may be helpful for dyads (eg, physician-patient, nurse-patient, pharmacist-patient).\textsuperscript{31} “Team talk” refers to the importance of making patients aware of their choices and eliciting their goals to guide the decision making process. “Option talk” compares the various alternatives (eg, antihypertensive medication, lifestyle, or do nothing) by using risk communication principles. “Decision talk” is the task of coming to a decision that reflects the patient’s informed preferences. Question prompt lists such as those developed by Irwig may also be useful for guiding conversations.\textsuperscript{30} These questions include: 1) What will happen if I wait and watch? 2) What are my test or treatment options? 3) What are the benefits and harms of these options? 4) How do the benefits and harms weigh up for me? and 5) Do I have enough information to make a choice?

**Evaluating Shared Decision Making**

While content expertise in the decision sciences is recommended to formally evaluate SDM interventions, measures and instruments

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already exist to help guide practitioners.\textsuperscript{31,32} In Figure 1, we provide a thumbnail sketch for one of many potential approaches for evaluating SDM. Admittedly, there are challenges to implementing SDM in clinical care.\textsuperscript{33,34} One challenge is that some believe that SDM takes too much time and cannot be done during a typical clinical visit. While several studies have shown that SDM visits are not significantly longer than standard clinical care visits,\textsuperscript{35} evaluations of brief SDM interventions for hypertension management that can be implemented in real world settings are needed to confirm efficacy and maximize clinician uptake. Another challenge is that SDM for chronic care management is not reimbursed (as opposed to other contexts like lung cancer screening).\textsuperscript{36,37} Consequently, scheduling longer follow up visits for the subset of hypertensive patients who may need more time for SDM will be challenging in the typical 15-minutes per patient context.

**Future Directions**

Despite challenges with implementation, research opportunities remain for SDM in hypertension. First, it will be important to determine whether patients vary in their preferences regarding optimal BP management strategies. Second, evaluating whether patient preferences for SDM strategies differ by sociodemographic factors is needed to tailor future interventions. Third, a better understanding of clinician preferences for BP management and SDM strategies may have implications for adoption of SDM interventions. Fourth, while the potential for SDM interventions to reduce health inequalities has been explored broadly,\textsuperscript{38} more research is needed on the efficacy of hypertension-specific interventions designed for the groups most affected by hypertension. Fifth, the potential role of telemedicine for enhancing SDM warrants more attention. Finally, more research is needed regarding novel uses of the electronic medical record for facilitating and documenting the SDM process with hypertensive patients.

**CONCLUSIONS**

Optimal hypertension management should be recognized as involving preference-sensitive decision making. Adherence to hypertension treatment plans are typically poor and it would be expected that more optimal adherence would be realized in plans that are concordant with patient preferences. SDM has the potential to advance health equity by better engaging patients in health care decisions and integrating patient preferences into treatment plans. SDM in hypertension may also improve patient-provider communication and in turn, strengthen partnerships between patients and various members of the health care team.

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No conflicts of interest to report.

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