

Research Article

# The role of individual time preferences in health behaviors among hypertensive adults: a pilot study

R. Neal Axon, MD,\* W. David Bradford, PhD, and Brent M. Egan, MD

The Medical University of South Carolina, Charleston, South Carolina, USA

Manuscript received April 24, 2008 and accepted August 5, 2008

## Abstract

An economic framework incorporating patients' time-value preferences may help explain individual variation in preventive health behaviors. We conducted a pilot study to examine the relationship between health discount rates and preventive health practices. A group of 422 hypertensive individuals were assessed by written survey regarding their actual or likely preventive health behaviors, and they were posed a series of time preference questions. Regression methods that account for the interval nature of the time preference responses were used to estimate individual respondents' discount rates. Dichotomous regression analyses (using probit models) adjusted for gender, age, race, income, and health status revealed mean health discount rates of 0.438 or (43.8%) per year (standard deviation [SD], 0.07). Analyses adjusted for age, gender, race, income level, insurance status, and health status indicated that a 1% increase in discount rate increased the likelihood respondents would not check their BP by 3.5% ( $P = .003$ ), not alter diet and exercise habits by 0.6% ( $P = .004$ ), and not follow doctors' treatment plans by 1.6% ( $P = .05$ ). Compared to the four lowest quintiles, patients in the highest quintile of discount rates (annualized discount rates between 50% and 57.2%) tended to have lower likelihood of ever checking blood pressure (BP) at home (42.5% vs. 47.6%;  $P = .36$ ), of not using their physician's office for sick care (16.5% vs. 27.6%;  $P = .01$ ), and of not altering their diet and exercise habits in response to a diagnosis of hypertension (6.8% vs. 12.4%;  $P = .07$ ). These preliminary data indicate that the degree to which individuals discount the future has a significant impact on their health behaviors. *J Am Soc Hypertens* 2009;3(1): 35–41. © 2009 American Society of Hypertension. All rights reserved.

*Keywords:* Health discounting; hypertension; rates; health status.

## Introduction

An estimated 65 million Americans have hypertension, representing almost 29% of the adult population, and recent data reveal that the prevalence of hypertension has not changed from 1999 to 2006.<sup>1–4</sup> Despite improvement in recognition and treatment rates for hypertension in recent years, control rates in the population still lag behind goals set by experts.<sup>5,6</sup>

This study was supported by the Department of Health and Human Services entitled Community-Focused Initiative to Reduce Burden of Stroke (SBEMP040001-02-0, Drs. Egan and Bradford) and the Agency for Healthcare Research and Quality (AHRQ) "Understanding and Eliminating Health Disparities in Blacks" (P01HS1087-01, Dr. Egan).

Conflicts of interest: none.

\*Corresponding author: R. Neal Axon, MD, Assistant Professor of Medicine and Pediatrics, The Medical University of South Carolina, 135 Rutledge Avenue, MSC 591, Charleston, South Carolina 29425. Tel: 843-792-2900; fax: 843-792-6355.

E-mail: [axon@muscc.edu](mailto:axon@muscc.edu)

Barriers to effective hypertensive care include patient, provider, and system-specific factors.<sup>7</sup> Provider barriers, including time constraints, practice patterns, fear of adverse drug effects, and complexity of managing comorbid conditions as well as therapeutic inertia have received significant attention in recent years.<sup>7–10</sup> System-specific barriers to care including geographic location, transportation, physician supply, insurance coverage, and costs of care have also been well described.<sup>11–15</sup> Patient-specific barriers to care have been conceived as including predisposing, enabling, and reinforcing inputs.<sup>15</sup> Such predisposing factors include knowledge of hypertension, attitudes regarding care, and self-reported health status.<sup>16</sup> One attitudinal factor that has received relatively little attention to date is the degree to which individual patients value the future relative to the present.

Economic theory states that individual time preferences are a fundamental personal characteristic and that people discount future value to varying degrees. In general, we expect that people with higher rates of discounting future value will shift consumption of economic goods to the

present relative to people who place greater value/emphasis on the future. Grossman<sup>17</sup> proposed a model in which health is a component of human capital, which depreciates over time and in which investments can be made. Subsequent economic research has investigated many dynamic aspects of health production and health care demand.<sup>18–22</sup> Recent research has refined the methods for measuring individual discount rates.<sup>23,24</sup>

To date, no comprehensive model has sufficiently explained the high degree of variability observed in individual preventive health behaviors and medical adherence suggesting that as-yet unmeasured factors contribute to this phenomenon. Recognizing that preventive health behaviors in hypertensive patients are often suboptimal, an economic framework that features time-value preferences can be useful for understanding attitudinal predisposing factors. We present a pilot study to examine the relationship between the rate at which hypertensive patients discount future value and their actual or likely health behaviors. We also make suggestions regarding how this new method of assessment might be incorporated into existing models of health promotion planning.

## Methods

### Setting/Recruitment

This study was conducted as a part of the South Carolina Excellence Centers to Eliminate Ethnic/Racial Disparities (EXCEED) Study sponsored by the Agency for Healthcare Research and Quality (AHRQ) in conjunction with the Medical University of South Carolina. This study was approved by the Institutional Review Board at the Medical University of South Carolina.

Telephone invitations for group surveys were extended to hypertensive adult clinic patients aged 20 and above seen for primary care in community-based clinics affiliated with the Hypertension Initiative of South Carolina.<sup>25</sup> In an effort to limit potential bias, group surveys were conducted at locations outside the clinic setting. All group sessions were completed between June 13, 2003 and October 7, 2004.

### Data Collection/Group Surveys

Patients presenting for group sessions were given written survey forms to complete. All survey items were pretested, and the tool included selected and previously validated items from the Perceived Efficacy in Patient-Physician Interactions (PEPPI) questionnaire.<sup>26</sup> Study personnel were available to provide assistance to individuals in interpreting and answering questions upon request. In addition to basic demographic information, survey topics included access to and preferences for primary care, quality of physician-patient interactions, knowledge of hypertension and its complications, and patient self-efficacy. Additional questions

**Table 1**

Health behavior questions and responses

---

Do you test your own blood pressure using a blood pressure cuff at home?
1 = No, never
0 = Sometimes
0 = Yes, regularly
Where do you usually go for health care when you are sick?
0 = Mainly to a doctor's office or clinic
1 = Mainly to an emergency room
1 = Sometimes to a doctor's office and sometimes to an emergency room
1 = Other, specify:
Everyday I follow the treatment program my doctor set up for me.
1 = Strongly disagree
1 = Disagree
0 = Agree
0 = Strongly agree
What would you rather do?
1 = Eat, drink, and live my life the way I want and have poorer health in 5 years
0 = Give up eating, drinking, and living the way I want and have better health in 5 years
Imagine you smoke a pack of cigarettes daily, what would you be likely to do?
0 = Participate in 12 weekly quit smoking classes, which cost \$120 and meet near your home in the evening
0 = Participate in the quit smoking classes and take pills, which cost an extra \$120 but which will ensure you really stay off cigarettes (class and pills total cost \$240)
0 = Quit smoking on my own
1 = Cut back smoking on my own
1 = I probably would not quit or cut back until I feel a negative effect from smoking

---

related to patients time-value preferences. These were of the general form:

"If you win the lottery today, which prize would you prefer?

\$1,000 cash paid today

OR

\$1,500 paid in cash 5 years from today?"

Four follow-up survey items refined the patients' time-value preferences by presenting higher values for the hypothetical future payment to more accurately define individual discount rates. Finally, patients were asked a series of hypothetical questions regarding their actual or likely health behaviors. Topics included likelihood of checking BP at home, likelihood of altering diet and exercise patterns, likelihood of following a doctor's treatment plans, likelihood of smoking cessation, and likelihood of seeking sick-day care outside of the primary care home. Relevant questions and the coding scheme for answers are shown in Table 1.

Download English Version:

<https://daneshyari.com/en/article/2957172>

Download Persian Version:

<https://daneshyari.com/article/2957172>

[Daneshyari.com](https://daneshyari.com)