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Test of a Multidisciplinary Health Behavior Model of Medicare Elders' Antihypertensive Acquisitions

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TEST OF A MULTIDISCIPLINARY HEALTH BEHAVIOR MODEL OF MEDICARE ELDERS' ANTIHYPERTENSIVE ACQUISITIONS

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ABSTRACT

TEST OF A MULTIDISCIPLINARY HEALTH BEHAVIOR MODEL OF MEDICARE ELDERS' ANTIHYPERTENSIVE ACQUISITIONS

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This study examined the relative utility of the enhanced Health Belief Model as compared to the proposed Pharmaceutical Acquisition Model for Medicare Elders (PAMME) in describing antihypertensive acquisition with usage intentions for Medicare elders (65 years or older) in Southeastern Virginia. Data collection included record reviews to identify hypertensive Medicare elders. Consenting Medicare elders were randomly selected for invitation, with consenting Medicare elders contacted by telephone or in-person interviews. The survey instrument utilized open and closed ended questions. The target population for this study is Southeastern Virginia Medicare elders enrolled in a Part D plan and prescribed at least one antihypertensive. This study employed a quasi-experimental, retrospective, mixed methods design. A combination of primary and secondary data was obtained through telephone, face-to-face interviews and administrative record review. This study retrospectively examined antihypertensive acquisition experiences of Southeastern Virginia's Medicare elders, to explore how the Medicare Modernization Act of 2003 affected out-of-pocket costs and antihypertensive acquisitions. Analyses employed aggregate-based information to test the research hypotheses. Statistical analysis was conducted with SPSS Version 16. The majority (94 percent) of Medicare elders were able to legally acquire their antihypertensives. When comparing the enhanced

Health Belief Model (HBM) with the Pharmaceutical Acquisition Model for Medicare Elderly (PAMME) the HBM has 95.5 while 96.2 indicating slightly increased prediction with the added constructs of Medication Adherence and Consumer Choice Theory. This study confirms other research findings regarding Medicare elders' beliefs about generics with the majority (71.6 percent) who believe that the generic *works just as well as the name brand.* The complexity of antihypertensive acquisition decisions and beliefs about hypertension continue to provide a challenge for researchers. While this study has furthered our understanding of what factors influence legal antihypertensive acquisitions, much research remains to be conducted to fully comprehend the multidimensional constructs of hypertension and antihypertensives.

This dissertation is dedicated first of all to my parents, Paul John and Kathleen Ann Kopitzke, without whose loving support I would not have had the courage to pursue my dreams. Secondly, I wish to dedicate this dissertation to all my grandparents (Ralph Charles Emerson and Marcella Jactuber Kopitzke) who are with us in spirit, and those with us in the flesh (Margaret Ann Emerson and Paul Frank Kopitzke). My grandparents have been my inspiration and wonderful role models throughout this arduous journey. Without my grandparents' stubborn dedication to helping others and ideals of never giving up when times were tough, I would not have been able to complete this dissertation process. I learned perseverance and the desire to reach higher and achieve more than I ever thought possible, when first perched upon their comfortable,
warm, sate and loving laps.
Throughout this journey, my faith in God and the belief that helping others (by giving them a voice) has been, and continues to be the light that shines in the darkness to keep me focused on the goal! I dedicate this dissertation to all those who come after me who will utilize this work to improve the quality of life for those unable to aid themselves.

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TABLE OF CONTENTS

Page

LIST OF TABLES

Table Page

LIST OF FIGURES

Figure Page

Chapter 1

INTRODUCTION

This study sought to understand antihypertensive acquisition behaviors[1] of Medicare elders to determine which factors most influence acquisition decisions in the context of the enhanced Health Belief Model (HBM). The effective treatment of disease and illness depends upon patients actually adhering to prescribed treatment regimens (Ead, 1998) and begins with acquiring antihypertensives to treat hypertension (American Heart Association, 2007). Special emphasis is placed on the acquisition of prescribed antihypertensives, as approximately two-thirds of Medicare elders over 65 years of age and approximately 76% of those 75 years of age and older are affected by hypertension (American Heart Association, 2007; Centers for Disease Control and Prevention, 2005; White, 2002). The ability to acquire antihypertensives is essential for reducing health disparities for aging populations increasingly afflicted with hypertension and other health complications (Centers for Disease Control and Prevention, 2007).

This study specifically examined those factors, which might influence legal methods of acquisition for antihypertensives to include: (a) doctor prescribed and purchased, (b) obtained through physician-supplied samples, (c) prescription drug plan mail order (Centers for Medicare and Medicaid Services, 2005).

When acquired and taken as prescribed, antihypertensives have the ability to reduce hypertension related morbidity and mortality (Benson & Britten, 2002). Often Medicare

[1]Acquistion behaviors are defined as any method utilized to acquire antihypertensives through legally approved methods.

elders under-use (Voelker, 2004) and may not acquire all needed prescription drugs[2], including those for hypertension (Robeznicks, 2004). While treatable, under-use of antihypertensives adversely affects morbidity and mortality rates (American Heart Association, 2007) and under-treated or untreated hypertension has the potential to adversely affect cognitive, cardiovascular, renal and other functions (Blustein, 2000; Rosendorff et al., 2007) and accounts for approximately 1.2 million hospitalizations annually (Middleton, Hing & Xu, 2007).

Since Medicare Modernization Acts' (MMAs) full implementation on January 1, 2006, approximately 22 million Medicare elders have enrolled in Part D plans (both stand-alone prescription drug plans and Medicare Advantage plans with and without prescriptions) which provides a prescription drug benefit to Medicare elders previously lacking coverage (Henry J. Kaiser Family Foundation, 2008). The Medicare Modernization Act of 2003 (MMA) was implemented to increase access to affordable prescription drugs for Medicare beneficiaries by reducing out-of-pocket costs, but little has been done to examine the extent to which the policy has actually increased prescription drug acquisition, specifically for antihypertensives (Henry J. Kaiser Family Foundation, 2006; Neff, 2004; O'Brien, 2003).

Proposed methods for understanding antihypertensive acquisition include the development of a model that builds upon the enhanced Health Belief Model (HBM). This study tested an enhanced version of the HBM (Bandura, 1986; Rosenstock, Strecher, & Becker, 1988;) to determine if it accurately identifies factors that influence acquisition

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[2]Drugs were use in place of medications or antihypertensives when interacting with Medicare elders regarding their prescription drug plans and drug behaviors.

behaviors for antihypertensives of Medicare elders better than the proposed Pharmaceutical Acquisition Model for Medicare Elders (PAMME). The enhanced HBM was augmented with select components of the Medication Adherence Model (MAM) (Johnson, 2002) to explore usage (adherence) decisions and with constructs from the Consumer Choice Theory (Friedman, 1990) to assess the influence of price on antihypertensive acquisition behavior. The proposed model that was tested is named the Pharmaceutical Acquisition Model for Medicare Elders (PAMME).

Background

Demographics of the Elderly Population

Increasing Elderly Population

The increase in the number of elderly contributes to markedly higher incidence of treatable chronic disease and illness (American Heart Association, 2007b). An examination of factors that enable Medicare elders to acquire prescriptions, especially antihypertensives, is important as the number of elderly in the United States is expanding rapidly, with approximately 37 million elders residing in the U.S. in 2005 (U.S. Census Bureau, 2005) and approximately 39 million in 2006 (Henry J. Kaiser Family Foundation, 2006). The projections for 2010 estimate that more than approximately 40 million people in the United States population will be older than 65 years of age, with more than approximately 6 million older than age 85 (U.S. Census Bureau, 2005). The first cohort of Baby Boomers will reach 65 by 2011, which will expand the elderly population to approximately 20% of the U.S. population (U.S. Census Bureau, 2005). By 2040, these figures are expected to nearly double (U.S. Department of Health and Human Services, 2004). One of the fastest growing segments of U.S. society are those aged 85 years of age

and older; which accounts for approximately 9% of Medicare elders (U.S. Department of Health and Human Services, 2004). In Virginia, those Medicare elders 85 years of age and older are expected to increase five times faster than the state's total population (Virginia Department for the Aging, 2006).

Gender

Historically, elderly women were disproportionately represented in Medicare populations due to longevity (U.S. Census Bureau, 2005). While on average men's life expectancy has increased to approximately 75 years of age, women's average life expectancy is approximately 86 years of age (U.S. Census Bureau, 2006). According to the U.S. Census Bureau (2006), the majority (67%) of Medicare elders older than 65 years of age are women. However, men and women have comparable levels of hypertension (approximately 27%) of those adults living with chronic disease or illness (Centers for Disease Control and Prevention, 2007). Additionally, more women than men experience incidences of uncontrolled hypertension (Reinberg, 2008). However, the gap between elderly men and women is expected to narrow by 2025 with 18% more men reaching advanced ages (U.S. Census Bureau, 2006).

Ethnicity and Health Disparities

Ethnicity for the approximately 300 million people in the United States varies slightly from the state of Virginia's 8 million people (U.S, Census Bureau, 2008). According to the U.S. Census Bureau (2008), the U.S. is comprised of approximately 80% white, 13% black, 1% American Indian and Alaskan Native, 15% Hispanic, and 4% Asian whereas Virginia has approximately 73% white, 20% black, less than 1% American Indian and Alaskan Native, 6% Hispanic, and nearly 5% Asian. Ethnicity is an important

consideration as black, Hispanic and others are increasingly identified with hypertension as health care disparities continue to be addressed (U.S. Census Bureau, 2006). Research indicates that hypertension disproportionately affects blacks (57%) and other minorities (16%) who increasingly present with blood pressure levels well above acceptable levels (Reed, Hargraves, & Cassil, 2003). Additionally, treatment of hypertension in non-whites has been and continues to be inadequately addressed in the health-care setting (Clinical Drug Investigation, 2000; James, Thomas, Lillie-Blanton, & Garfield, 2007).

Education and Health Literacy Status

Education attained and literacy level influences the ability to comprehend complex health care directives (Wilson, Schoen, & Neuman, 2007). Health literacy may be a serious concern in this population. In a study by Prudential Center for Health Care Research, researchers recently found that 34% of English-speaking and 54% of Spanish-speaking respondents in their study of elders more than 65 years of age lacked health literacy (Gazmararian et al., 2008).

Currently, 23% of elders have less than a high school education while one-quarter have completed a minimum of high school education and 47% have completed some college and advanced degrees (Centers for Disease Control and Prevention, 2007).

Income and Poverty Status

More than one-third of elders are considered low income (Centers for Medicare and Medicaid Services, 2006). Affordability issues for prescription drugs that improve lives or prevent disease have become critical due to 36% of those aged 65 years or more and 58% of those aged 85 or greater are living in poverty (Moran & Simon, 2005; U.S. Department of Health and Human Services, 2004). Low-income Medicare elders often

lack the income or resources necessary to prevent or treat chronic disease and illness, including hypertension (Piette, Heisler, & Wagner, 2004). The prevalence of multiple chronic illnesses is greater for low-income Medicare elders than for those who are more affluent (Federman, Halm, Zhu, Hochman, & Siu, 2006). In addition, the ability to acquire supplemental health insurance is affected by income status (Stuart, Simoni-Wastila, & Chauncey, 2005)

Poverty status also affects access to health care by making it less affordable (U.S. Department of Health and Human Services, 2004). The gap between access to prescription drugs for low-income elderly and those more affluent elders is a specific area of concern (World Health Organization, 2002). Additionally, women and minorities have disproportionately higher incidences of poverty (Agnew, Halprin, & Lipton, 2003; Moran & Simon, 2005). However, Medicare elders below 150% of the federal income poverty level are eligible for both Medicaid and Medicare and are considered Dual Eligible (Centers for Medicare and Medicaid Services, 2006; U.S. Government Accounting Office, 2007). Medicaid provides an income supplement that includes food stamps, payment of Medicare Part B and automatic qualification for Extra Help. Extra Help pays Medicare Part D premiums, eliminates the deductible, and lowers co-pays at the drug store (Centers for Medicare and Medicaid Services, 2006; U.S. Government Accounting Office, 2007).

Chronic Health Conditions

The proper medical management of almost all chronic illnesses requires the ongoing use of prescription drugs (Brewer, Chapman, Brownlee, & Leventhal, 2002; Ead, 1998; Loeb, Penrod, Falkenstern, Gueldner, & Poon, 2003; McCloskey, 2002; Sherer, 2003; Stuart, 2004). Approximately 80% of all elderly have at least one chronic health

condition, with approximately 50% having two or more (U.S. Census Bureau, 2005) with approximately 36% of elderly Medicare elders having three or more chronic conditions to manage (Agency for Healthcare Research and Quality, 2002; Henry J. Kaiser Family Foundation, 2007b). With chronic illness comes the need for affordable prescriptions to treat or prevent adverse health events (Benson & Britten, 2002; Weschler, 2004; Wilson, Schoen, & Neuman, 2007). Through consistent, affordable prescription drug acquisition and usage, the possibility of a better quality of life may be attained through reductions in preventable morbidity and mortality (Soumerai et al., 2006; U.S. Department of Health and Human Services, 2004).

Underuse Decisions: Intentional or Unintentional

Prescription drug underuse may be either intentional or unintentional (Cooper, Love, & Raffoul, 1982; Corrigan, 2002; Lehan & McCarthy, 2006). The choice to underuse prescription drugs may stem from beliefs about effectiveness or safety (Vik, Maxwell, Hogan, Patten, Johnson, & Romonko-Slack, 2005) of the prescription drugs as well as unpleasant side effects (George et al., 2006). Intentional underuse may reflect acquisition decisions by marked decreases in the need to refill prescriptions (Vik et al., 2005). Intentional acquisition or underuse of necessary prescription drugs may also be influenced by perceived needs for various prescription drugs (Benson & Britten, 2002; Cooper, Love, & Raffoul, 1982; George, Munro, McCaig, & Stewart, 2006). Conversely, research also indicates that multiple dosing and multipharmacology often contribute to unintentional adherence problems due to the number of pills, busy schedules and remembering (Haynes, McDonald, & Garg, 2002; Kirking, Lee, Ellis, Briesacher, &

McKercher, 2006; Lehan & McCarthy, 2004). However underuse occurs it, is necessary to understand the potential influence that may be exerted on acquisition decisions and health-seeking behaviors (Yagoda, 2004).

Cost Considerations

Rising prescription drug prices affect both overall healthcare expenditures and perceived affordability of prescription drugs, especially for low-income Medicare elderly (Families USA, 2003, 2006). Rising prescription drug prices adversely affect Medicare elders due to higher co-pays and higher out-of-pocket expenditures, especially when coverage gaps occur (Centers for Medicare and Medicaid Services, 2006; Crystal, Johnson, Harman, et al., 2000; Families USA, 2004; Klein, Turvey, & Wallace, 2004; Stuart, Simon-Wastila, & Chauncey, 2005). As of 2004, prescription drug costs accounted for more than 10% of Medicare elders' incomes and constituted 56% of Medicare elders' health-care costs, with average out-of-pocket costs approximately $2,500 per year (Gregory, 2004; Sloane, 2004; U.S. Department of Health and Human Services, 2005). While approximately 9% of elderly had no prescription drug costs, 91% of Medicare elders filled an average of 30 prescriptions annually (U.S. Department of Health and Human Services, 2004). Medicare elders with incomes of $10,001-$20,000 had the lowest average with coverage (73%) due to Medicaid eligibility (U.S. Department of Health and Human Services, 2004).

Cost is a significant barrier to acquiring necessary drugs for the elderly (Ganguli, 2003; James et al., 2007; LeBuono, 2004; Vik, Hogan, Patten, Johnson, Romonko-Slack, & Maxwell, 2006). For those with chronic health conditions, 18% of U.S. adults indicated that cost-related drug underuse occurs at least once per year (Piette, Heisler, & Wagner,

2004). Additionally, those elderly with high out-of-pocket expenses of $100 or more and annual incomes of less than $20,000 were more likely to have cost-related underuse (Piette, Heisler, & Wagner, 2004; Stuart & Briesacher, 2002). Ethnicity also affects cost-related usage with approximately 17% of black Medicare elders reporting prescription drug underuse due to affordability concerns as compared to 9% of whites (Gaskin, Briesacher, Limeangeo, & Brigantti, 2006; Reed, Hargraves, & Cassil, 2003).

Preventable Cost and Health Consequences of Prescription Drug Non-use and Underuse

In order for prescription drugs to provide beneficial outcomes (reducing morbidity and mortality), prescribed guidelines must be followed (Williams, 2002). When prescription drugs are not taken as prescribed the therapeutic benefits or prevention efforts are less than optimal (American Medical Association, 2002; Gottlieb, 2000; Mojatabai & Olfson, 2003). The implications for underuse or improper usage of prescription drugs have been linked to increases in emergency department visits (Lu et al., 2006; Piette, 2005; Prendergast, Marquez, Jr., Schilichting, & Figuroa-Pal, 2007) and doctor visits (Piette, Heisler, & Wagner, 2004). The costs of preventable readmissions attributable to underuse of prescription drugs range from approximately $1.4 billion to more than $374 billion, with increases of approximately 19% each year (Friedman & Basu, 2004). Research studies that track patient readmissions indicate that inappropriate prescription drug usage accounts for approximately 14 to 20% of emergency department visits and accounts for approximately 35% of doctor visits annually (Budnitz, Shehab, Kegler, & Richards, 2007; Wofford, Schwartz, Timerding, Folmar, Ellis, & Messick, 1996). However, overall, adherence to

prescription drugs ranges from 17 to 70% depending upon type of medication and disease state (National Institutes of Health, 2003).

Hypertension

Hypertension (see Table 1) is defined as having persistent blood pressure levels above 140/90 (American Heart Association, 2007b). Current recommendations are to begin treatment in the pre-hypertension stage to prevent adverse consequences of damage that occurs at higher blood pressure levels (National Health Lung and Blood Institute, 2006). Therefore, the need for antihypertensives that treats as well as prevents adverse

Table 1

Hypertension Levels

	Adult Blood Pressure Levels		
Category	Systolic (mmHg) (Top Number)	Diastolic (mmHg) (Bottom Number)	Result
Normal	Less than 120	Less than 80	Good
Pre-hypertension	120-139	80-89	May lead to Hypertension
Hypertension			
Stage 1	140-159	90-99	Need Rx to Control
Stage 2	160 or higher	100 or higher	May need additional Rx

Note. From data acquired from the National Heart Lung and Blood Institute, 2006 and the U.S. Department of Health and Human Services, 2003.

complications of hypertension is expected to continue to be a concern for the aging U.S. population (American Heart Association, 2007b; Chobanian, 2007; Ma, Lee, & Stafford, 2006).

Complications

In 2004, cardiovascular disease accounted for approximately 22% of deaths (Minino, Heron, & Smith, 2006). Antihypertensives, when taken as prescribed, have the potential to prevent stroke and other cardiovascular complications (Andrawes, Bussy, & Belmin, 2006). However, left untreated, hypertension poses increased risk for heart disease and stroke (Centers for Disease Control and Prevention, 2005; Pinto, 2007). Antihypertensive underuse significantly influences preventable complications for hypertension and contributes to premature morbidity (American Heart Association, 2007b; Ryan, 1991).

Antihypertensives

Hypertension Treatment

This study focused upon the acquisition of antihypertensives that have been shown to reduce hypertension and prevent further disease related complications (Centers for Disease Control and Prevention, February 2007a). The ability to treat and prevent adverse health outcomes depends upon continuous prescription drug acquisition and usage of antihypertensives to reduce preventable hypertension related morbidity and mortality (Field, Gilman, Subramanian, Fuller, Bates, & Gurwitz, 2005; Soumerai et al., 2006; U.S. Department of Health and Human Services, 2004). In addition to use of one or more antihypertensives, hypertensive treatment also may include diet (Appel, Brands, Daniels, Karanja, Elmer, & Sacks, 2006), and lifestyle modifications (Schwartz & Sheps, 2006).

The classification of prescription drugs designated as antihypertensives and designed to prevent or treat hypertension, includes five main categories: ACE inhibitors, ACE II inhibitors, diuretics, beta-blockers, and calcium blockers (American Heart Association, 2007b). The purpose of each targets a specific area that influences management of hypertension (high blood pressure) by regulating blood flow to increase heart efficiency (American Heart Association, 2007b).

Current Use/Underuse of Antihypertensives

Antihypertensives are prescribed for more than half of Medicare elders; with low-level diuretics often used as the first line of treatment (Al Khaja, Sequeira, & Mather, 2000; Nickolaus & Becker, 2000). After initial diagnosis, additional antihypertensives may be added to treat hypertension and prevent further complications related to the protection of the heart, liver, brain, eyes, and blood vessels (National Heart Lung and Blood Institute, 2006). Initially, adherence for antihypertensives is high (approximately 87%) for the first few months after diagnosis, with sharp declines in usage within 6 months of diagnosis (American Heart Association, 2007b; Raehl, Bond, Woods, Petry, & Sleeper, 2006).

Antihypertensive Costs

The cost of antihypertensives have been rising approximately 19% annually while Medicare elders' incomes have remained relatively fixed (Blustein, 2000). Prescription drug costs are often indicated as reasons for underuse (Piette, Wagner, Potter, & Schillinger, 2004). Patients often indicate that prescription drug costs play an important role in underuse, which contributes to preventable readmissions (Fischer & Avorn, 2003; Lynch, 2006). Hypertensive Medicare elders, without prior prescription drug coverage,

faced immense difficulty in acquiring their antihypertensives due to cost considerations and were at greater risk for increased morbidity and mortality (RAND, 1999).

Antihypertensive Prescription Drug Prices

Table 2 provides examples of commonly prescribed antihypertensives (name brand and generic equivalent) using 2005 average costs (U.S Government Accounting Office, 2005).

Table 2

Antihypertensive Prescription Drugs

Antihypertensives	Name Brand	Generic	Average Monthly Cost
ACE inhibitors	Lotesin	Benazepril	$43
	Vasotec	Enalapril	$39
	Accupril	Quinapril	$51
Diuretics	Lasix	Furosemide	$38
Beta-blockers	Lopressor	Metoprolol Tartrate	$35
	Corgard	Nadolol	$59
	Inderal	Propranolol	$44
	Toprol XL	Metoprolol Succinate	$32
Calcium Channel	Norvasc	Amlodipine	$55
Blockers	Cardizem CD	Diltiazem	$58
	Procardia XL	Nifedipine	$94
	Calan SR	Verapamil	$66

Note. Adapted from *Consumer Reports*, 2005.

Pre-Medicare Modernization Act (MMA)

Prior to the passage of the Medicare Modernization Act of 2003 (MMA), Medicare elders without prescription drug coverage had affordability issues due to the lack of coverage (Agnew, Halpin, & Lipton, 2003). The main consideration was cost due to the rapid increases in prescription drug prices (Centers for Medicare and Medicaid Services, 2005c). In 2000, prescription drug costs on average amounted to approximately $1,340 per elderly person with 17% having costs of $2,000 or more (U.S. Department of Health and Human Services, 2004). In 2001, prescription drugs were 11% of health care costs and approximately 5% of elderly reported delays in health care needs due to cost considerations (U.S. Department of Health and Human Services, 2004).

Overall out-of-pocket expenditures for prescription drugs accounted for approximately 56% of health care service spending for elderly Americans for 2000-2001 (U.S. Department of Health and Human Services, 2004). Medicare elders without prior prescription drug coverage often had to choose between prescriptions or other basic support needs such as food or utilities (Conway-Welch, 2000; Crystal, Johnson, Harman et al., 2000; Poisal & Chulis, 2000; Sarver, Sudano, & Baker, 2000). In 2002, nearly one-half (48%) of those aged 65 and older took three or more prescriptions monthly, spending approximately $3 billion annually on prescription drugs (Williams, 2002). The high out-of-pocket costs were especially difficult for one-third of Medicare elders, who, without prior prescription drug coverage, paid 45% of the cost of prescriptions (Meyer, 2002). In 2004, out-of-pocket expenses were approximately 42% with 35% covered by private insurance and public programs covering 23% of prescription drug costs (U.S. Department of Health and Human Services, 2004).

The goal to provide community-based health education and outreach for basic health services to underserved populations is highlighted by *Healthy People 2010* (U.S. Department of Health and Human Services, 2000). The Medicare Modernization Act (MMA) prescription drug benefit was designed to address this goal by increasing access to affordable prescription drugs for the more than 44 million U.S. Medicare elders through education and outreach efforts (Agnew, Halpin, & Lipton, 2003; World Health Organization, 2002) to include approximately 947,000 Virginians (Virginia Department for the Aging, 2005). Current research indicates that despite MMA's best efforts to increase access to affordable prescription drugs for Medicare elders, cost related problems remain (Bowman, 2007; Hsu, Fung, Price, Huang, Brand et al., 2008). Additionally, since the MMA of 2003 was implemented to increase access to affordable prescription drugs by reducing out-of-pocket costs (Henry J. Kaiser Family Foundation, 2006; Neff, 2004; O'Brien, 2003) little has been done to examine the extent to which the policy has actually increased prescription acquisitions, specifically for antihypertensives.

Highlights of Medicare Modernization Policy

Medicare Modernization Act Implementation

The Medicare Modernization Act of 2003 (MMA) was implemented in several stages and open enrollments periods differ depending upon Part D product (Centers for Medicare and Medicaid Services, 2007). The full-scale implementation of the MMA began January 1, 2006, following an initial, voluntary two-year (FY2004 and FY 2005) Medicare Approved Drug Discount card with an annual credit (up to $600) qualifying, low-income Medicare enrollees (Centers for Medicare and Medicaid Services, 2005c).

Timeline

- Older Americans Act (OOA) of 1965 – Excluded Prescription Drug Coverage
- Legislation to amend OAA to include prescription drugs passes December 8, 2003
- Transitional Program (Medicare Approved Drug Discount Card [MDC]) FY 2004 – FY 2005
- Part D Implementation – Fully implemented January 1, 2006
- Open Enrollment completed December 31, 2006, for Prescription Drug Plans (PDPs)
- Open Enrollment completed March 15, 2007, for Medicare Advantage Plans (MA & MA-PDs)
- Open Enrollment completed December 31, 2007, for Prescription Drug Plans (PDPs)
- Open Enrollment completed March 31, 2008, for Medicare Advantage Plans (MA & MA-PDs)

The MMA of 2003 was enacted to reduce disparities due to prescription drug affordability (Matthews, 2004). The MMA expanded Medicare to provide a prescription drug benefit previously lacking in the original Older Americans Act of 1965 and subsequent revisions (Centers for Medicare and Medicaid Services, 2005c; Klein, 2003; Swartz, 2003; Weeks, 2004).

Medicare Modernization Act: Voluntary Options (FY 2004 – FY 2005)

Medicare Approved Drug Discount Card Program

The two-year voluntary Medicare Approved Drug Discount Card program (MDC) in FY 2004 – FY 2005 was a transitional program, which provided 40% discounts and monetary credits (up to $1,200) for qualifying low-income Medicare elders (Centers for Medicare and Medicaid Services, 2005a; U.S. Department of Health and Human Services,

2004). Monetary credit approval was determined by annual gross income and excluded assets (Centers for Medicare and Medicaid Services, 2005c). The MDC program's intentions were to reduce prescription drug costs, especially for those previously without prescription drug coverage (Centers for Medicare and Medicaid Services, 2005a). For FY 2004, Medicare elders had 28 nationwide and 19 regional Medicare Approved prescription discount card (MDC) choices (Barlas, 2004). For FY 2005, Medicare elders in the state of Virginia had 39 plans to choose from in making their enrollment decisions (Centers for Medicare and Medicaid Services, 2005a). Medicare elders who enrolled in 2004 were able to change cards in 2005, if the card selected did not meet their drug discount needs; however, premiums varied by program enrollment, wraparound coverage and drug plan's formularies that could be frequently changed or not used (Barlas, 2004). Approximately 187,000 Medicare elders in southeastern Virginia were screened for this benefit (Virginia Department for the Aging, 2005).

Medicare Modernization Act: Part D Implementation (FY 2006- FY 2008)

Medicare Part D

The MDC program was phased out as of January 1, 2006, when the Medicare Modernization Act (MMA) became fully implemented (Centers for Medicare and Medicaid Services, 2006). Since MMA's full implementation, 19 million Medicare elders have enrolled in Part D plans (both stand-alone prescription drug plans and Medicare Advantage plans with prescription coverage) thereby providing a prescription drug benefit to Medicare elders previously lacking coverage (Centers for Medicare and Medicaid Services, 2005e). Additionally, as of 2006, only 8% of Medicare elders were without coverage, as opposed to 33% in 2005 (Kaisernetwork.org, 2007). For FY 2006, the number of

Medicare approved plans from which Virginia Medicare elders had to choose was 41. That number increased to more than 51 for FY 2007 and more than 53 for FY 2008 (Centers for Medicare and Medicaid Services, 2008). Since MMA's full implementation in FY 2006, open enrollment has been completed for FY 2007 and FY 2008 (Centers for Medicare and Medicaid Services, 2008).

Medicare Advantage Plans

Medicare elders who decide to bundle Part A, B, and D benefits may choose a Medicare Advantage plan (Centers for Medicare and Medicaid Services, 2005d). Medicare Advantage plans were formerly called Part C or Medicare + Choice (Centers for Medicare and Medicaid Services, 2005d). Medicare elders may choose to enroll in a Medicare Advantage plan if they perceive them as providing the best benefit (maximum utility) since these plans are expected to result in increased savings (Centers for Medicare and Medicaid Services, 2006). Another possible reason for selecting a Medicare Advantage plan is that the premium is paid by Medicare while the Medicare elders' health care provision is managed by approved coverage providers (Centers for Medicare and Medicaid Services, 2005c). Medicare elders must continue to pay their Part B premium, with the exception being those Medicare elders who also have Medicaid, which will pay their Part B premium (Henry J. Kaiser Family Foundation, 2006). However, Medicare elders without Extra Help who select Advantage plans may experience unexpected higher co-pays at both the doctors' office and at the pharmacy (Hoadley, Thompson, Hargrave, Merrell, Cubanski, & Neuman, 2007). For Dual Eligibles (with both Medicare and Medicaid) who automatically qualify for the Extra Help benefit, Advantage plans have fixed co-pays for prescription drugs and have no deductible or coverage gap (Elam, 2006).

Complexity of the Part D Decision-making Processes

Creditable Coverage Status

Medicare elders' decision to participate in the Medicare Modernization Act (MMA) implementation often depends upon creditable coverage[3] status. Medicare elders with creditable coverage are not required to participate in MMA. However, Medicare elders without creditable coverage must enroll in a Medicare prescription drug discount plan or pay a late enrollment penalty when they later decide to participate (Centers for Medicare and Medicaid Services, 2005a).

Medicare elders with creditable coverage may choose to explore their MMA options to determine if they may be able to reduce their current prescription drug costs by selecting a cost-effective alternative (utility maximizing) to employer-based plans (Folland, Goodman, & Stano, 2004). In addition, those with employer-based plans who are able to isolate the prescription drug portion may elect to utilize MMA to reduce their out-of-pocket expenditures (Centers for Medicare and Medicaid Services, 2006). Lastly, employees with creditable coverage who retire or turn 65 are increasingly losing coverage when become eligible for Medicare (Henry J. Kaiser Family Foundation, 2007b).

Extra Help Decision-making Processes

Extra Help (i.e., Low-Income Subsidy [LIS]) approval status may influence Part D enrollment decisions since Extra Help eliminates plan deductibles and premiums, and subsidizes co-pays for qualifying Medicare beneficiaries (U.S. Government Accounting Office, 2007). Medicare elders are screened for Extra Help eligibility, which has income (150% of poverty level), and assets (less than $11,700) requirements (Elam, 2006).

[3]Creditable coverage is defined as previous insurance that is considered "as good or better" than Medicare (Centers for Medicare and Medicaid Services, 2004).

The three methods by which Medicare elders may apply for the Extra Help benefit are as follows: (a) at Social Security Administration, (b) by mail, or (c) via an online submission process (Centers for Medicare and Medicaid Services, 2005a). Medicare elders who are denied Extra Help may appeal the decision with an independent qualifying agency (Centers for Medicare and Medicaid Services, 2005a; U.S. Government Accounting Office, 2007). Medicare elders who are ineligible or denied Extra Help may choose to participate in an MMA benefit plan to avoid the late or non-enrollment penalty (Centers for Medicare and Medicaid Services, 2005a). Since the full implementation of the MMA on January 1, 2006, there remain Medicare elders who are still unaware of Part D or Extra Help (Henry J. Kaiser Family Foundation, 2007b). For this study, only Medicare elders who are aware of Extra Help, have been screened for it, and who are currently enrolled in an MMA plan will be included.

Part D Decision-making Processes

Part D Enrollment

Medicare elders without previous prescription drug coverage may utilize the Medicare prescription drug discount plan finder through the Medicare website to narrow the choices by deductible, co-payments, and annual expected out-of-pocket costs (Centers for Medicare and Medicaid Services, 2005d). Medicare elders who perceive enrollment as potentially beneficial in reducing their out-of-pocket costs for prescription drugs and know that a non-enrollment penalty may be imposed will usually join a Part D plan (Henry J. Kaiser Family Foundation, 2005).

Figure 1 illustrates the different choices involved in application and enrollment decisions. Dual Eligible (both Medicare and Medicaid) automatically qualify for the Extra

Help benefit and usually are automatically enrolled in a prescription drug discount plan. For those eligible who apply, they may either be approved or denied. For those who are denied, an appeals process is available. Based upon Extra Help status, they may choose to either enroll or not enroll. Some Medicare elders are eligible but prefer not to apply for Extra Help or to enroll in a Part D plan, despite their knowledge of a penalty.

The Part D enrollment decision-making process (see Figure 2) allows making informed decisions regarding the selection of a best plan for a given coverage year

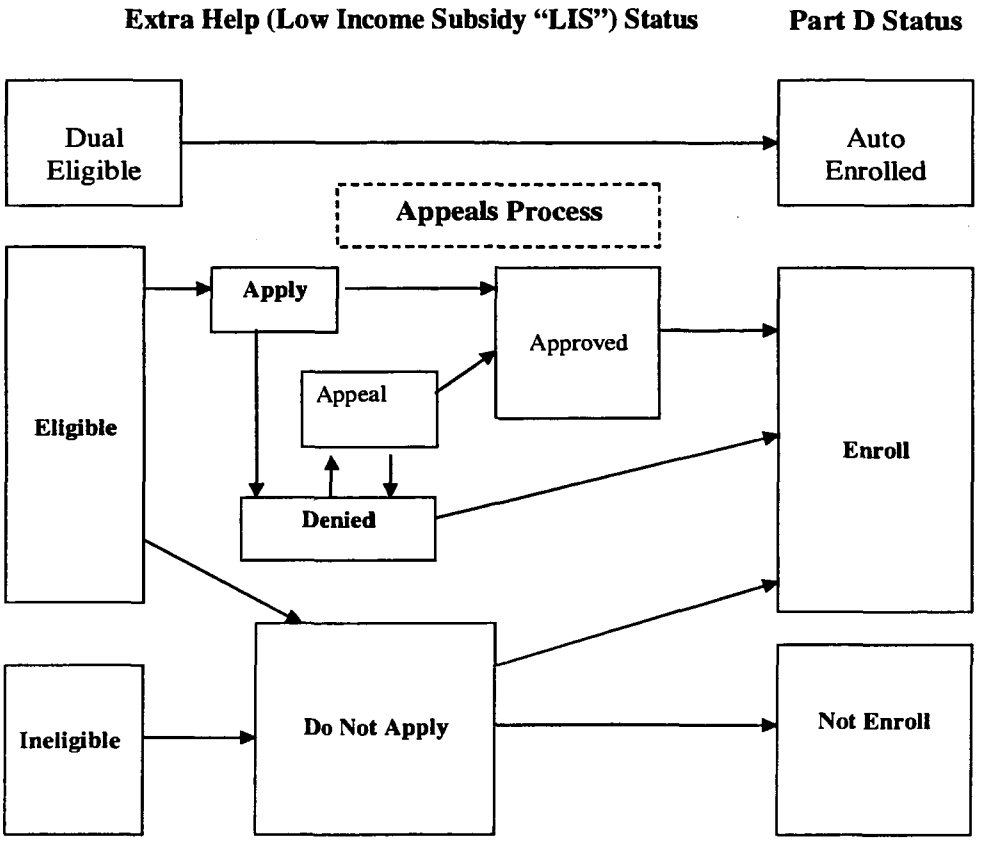

Figure 1. Influence of Extra Help (Low-Income Disability or LIS) and Part D Enrollment Decisions.

(Centers for Medicare and Medicaid Services, 2005b). Medicare participation in MMA is expected to result in savings of up to 40% for those Medicare elders who elect to enroll in a prescription drug discount plan (Centers for Medicare and Medicaid Services, 2005a). The plan finders utilize the generic costs where requested to estimate the annual prescription drug costs. Medicare elders with Extra Help are able to save money by not having a deductible, low co-pays, and Medicare paying Part D premiums. Medicare elders with Dual Eligibility automatically qualify for Extra Help with Medicare paying Part D premiums and Medicaid paying Part B premiums. Medicare elders without Extra Help are

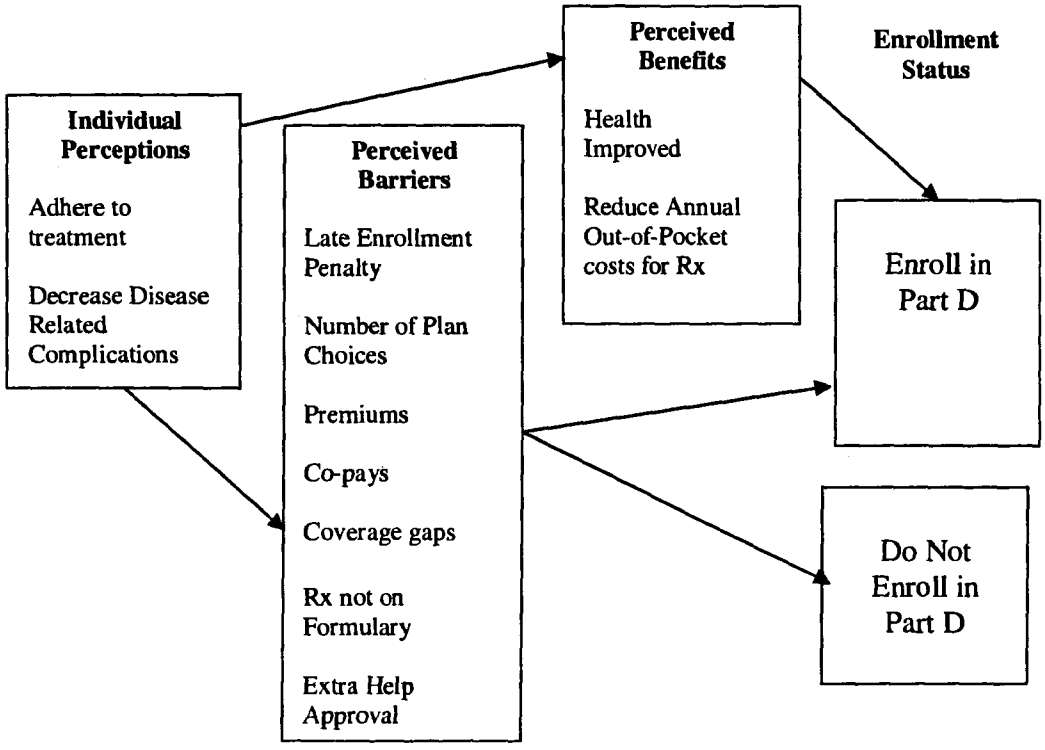

Figure 2. Part D Enrollment Decision-Making Process.

subject to periods when they are responsible for 100% of their prescription drug costs versus Extra Help elders who never reach the gap.

The acquisition decision-making process may lead Medicare elders to participate in the MMA prescription drug benefit depending upon their perceptions of the benefits and the barriers that may ultimately influence their ability to acquire antihypertensives. MMA decisions apply only to the current year and Medicare elders may rollover their Part D plan (Centers for Medicare and Medicaid Services, 2006); however, Medicare encourages Medicare beneficiaries to reevaluate plan choices each year as plan choices are updated and health status may have changed (Centers for Medicare and Medicaid Services, 2005a).

Various Methods Utilized to Solve the MMA Benefit Dilemma

For those who do not qualify for the Extra Help benefit, the decision is the verification that the prescription drug plan's formulary includes the drugs that are taken with no or a low deductible and the monthly premium costs are affordable. For Medicare elders who take no prescription drugs, they are advised to enroll in the plan with the least expensive premiums to avoid a late enrollment penalty.

To illustrate the complexity of the MMA decision-making process the following three representative scenarios highlight individualized approaches to addressing the MMA's health care decisions. The first scenario explores Medicare Part D without Extra Help. The second scenario describes Medicare Part D using a prescription drug discount plan with Extra Help. Lastly, the third scenario discusses the decision to choose a Medicare Advantage plan (previously called Medicare Part C) to solve the health care and prescription drug dilemma. Each case has its own unique benefits and drawbacks.

MMA Decision-making Process Scenario 1: Medicare Part D without Extra Help

The MMA's prescription drug discount plan benefit process often starts with Mr. Green (not his real name) receiving correspondence from the Centers for Medicare and Medicaid Services (CMS) when he becomes eligible for Medicare (up to three months before his 65th birthday). Initially, Mr. Green has seven months to select a MMA plan (three months before, the month of, and three months after his 65th birthday) if he is not covered by an equitable (creditable coverage) plan. Mr. Green's *Welcome Package* from the CMS indicates that Medicare beneficiaries without creditable coverage (employer- or military-based insurance plan) must enroll in the Medicare prescription drug benefit or be subject to a late enrollment penalty (Centers for Medicare and Medicaid Services, 2005). Those who must participate are directed to their local SSA or the website (www.ssa.gov) to apply for their Medicare card and be screened for Extra Help (Medicare also provides their website and toll-free number for further assistance. Often callers are referred to their local State Health Insurance Programs [SHIPs] or Agency on Aging). Mr. Green learned that Medicare elders who met the assets and income requirements for Extra Help might apply to be screened through their local SSA office or SHIP office (Centers for Medicare and Medicaid Services, 2006).

In addition, while Mr. Green had creditable coverage with his employer, his benefits department informed him that he would lose this coverage when he turns 65 years of age and encouraged him to choose a Medicare prescription drug discount plan. Mr. Green is angry and disappointed to learn that he will have to find his own health plan that includes a prescription drug plan. He is overwhelmed by the amount of correspondence that he has been receiving from the CMS, the SSA and numerous Medicare approved and

non-approved health insurance companies providing health coverage both with and without prescription drugs. The information that Mr. Green received from CMS indicates that there are 53 stand-alone prescription drug discount plans (PDPs), 21 Advantage (MA-PD & MA only) as well as 2 Special Needs plans in southeastern Virginia (Centers for Medicare and Medicaid Services, 2007).

Mr. Green started by calling CMS's 800 number and navigating through the numerous prompts. The expected wait time for the next available representative was approximately 25 minutes. A recording indicated that he cold hold, call back, or use the Medicare website to receive assistance. After about 20 minutes, Mr. Green became tired of waiting and called his brother, Mr. Lane (not his real name), who went through this process last year. Mr. Green learned that Senior Services of Southeastern Virginia, the local VICAP (Virginia Insurance Counseling Assistance Program) office, could assist by simplifying the enrollment process and answering questions about his options. Mr. Green brought the mailings that he received, his prescription drug bottles, and a copy of the insurance information from his employer's group plan to his appointment. He hoped to get similar coverage under the MMA that he had with his employer's group-based plan. Mr. Green was screened for Extra Help, but did not qualify because his assets were more than the limit (more than $11,750) and greater than the income (less than $12,675 for a single person) to qualify for the benefit. Additionally, Mr. Green believed that he would get approximately $30,000 annually (after taxes) and wanted a Medicare plan that minimized his annual out-of-pocket expenses for health insurance and prescription drug costs.

Mr. Green had been taking three prescriptions each day that cost him approximately $230 per month in co-pays. For 2007, Mr. Green selected a Medigap

supplement and a stand-alone prescription drug discount plan (PDP) with approximately $7,700 estimated annually to cover his health insurance expenses. Annually, Mr. Green has estimated out-of-pocket expenses for prescription drugs were approximately $2,695 including premiums and co-pays. Mr. Green selected a PDP that did not have gap coverage, so during five months his out-of-pocket expenses were expected to be approximately $275. However, when he reached the coverage gap (*donut hole*) he found he was paying $678 per month for the same three prescriptions. After Mr. Green discovered how much more he would pay in the coverage gap, he stopped taking one of his prescriptions and asked his doctor about free samples for another one. During open enrollment (November 15 - December 31) for the next year Mr. Green considered switching his PDP but did not want to go through the aggravation of selecting another plan especially when gap coverage was not widely available for any of the plans.

Medicare Part D Decision-making Process Scenario 2: Medicare Part D and Extra Help

Ms. Smith (not her real name) wanted to retire and researched the possibility of affording health insurance when she stopped working. She had worked for 25 years as a night auditor for a well-known chain store. Her benefits were good, but her wages were modest. She was unable to accumulate much retirement savings ($9,000) and would not receive more than $1,025 monthly from her retirement and Social Security. Ms. Smith was recently hospitalized. She takes seven prescription drugs that cost $90 in co-pays with her employer-based health plan. Her health plan covered all her hospital expenses except $2,000, for which she has arranged to make payments.

Ms. Smith contacted her local VICAP to discuss her retirement options. She received information about discounted senior housing that can help her to reduce her living

expenses. Ms. Smith also discovered that applying for Medicaid would pay her Part B premium (upon approval) and that when she stopped working she would become eligible for Medicaid. As a Dual Eligible (having both Medicare and Medicaid) Ms. Smith would automatically qualify for Extra Help (i.e., Low-Income Subsidy) and automatically be enrolled in a Medicare Part D plan.

Ms. Smith retired, was approved for Medicaid, and got her Medicare Part D plan. However, Ms. Smith found that the plan that was randomly chosen for her did not cover three of her prescription drugs. Ms. Smith contacted her local VICAP office and assisted with selecting another plan whose formulary included the prescription drugs she was currently taking. Since she qualified for Extra Help, Ms. Smith has no deductible, no premium, and low co-pays (approximately $2.40 for generics and $5.00 for name brands) for her prescription drugs. Ms. Smith is satisfied with her new plan and will keep it for the upcoming year. Ms. Smith will re-evaluate her plan as her health care provider prescribes new prescription drugs.

Medicare Decision-making Process Scenario 3: Medicare Advantage Plan

Mr. and Mrs. Brown (not their real names) live in a senior citizens' housing complex where an insurance presentation was offered for the Medicare Modernization Act (MMA) benefit. Pizza and drinks were served during the presentation and the Browns were asked to sign-in to prove that they had attended the event. Mr. and Mrs. Brown got a welcome package, approximately a week later, and learned that they had been enrolled in a Medicare Advantage plan. They did not understand why they were placed into this plan, but as there was no premium, they decided that they would keep the plan and see how it worked. When Mrs. Brown went to the doctor two months later, she was informed that

her doctor did not accept her Medicare Advantage plan and she would have to pay out-of-pocket for the visit.

As Mr. and Mrs. Brown are over the limit for Extra Help, they are not able to change their plan except during their annual enrollment period. Mr. and Mrs. Brown's previous health insurance had been employer-based with affordable monthly premiums and co-pays. However, upon being enrolled in the Medicare Advantage plan, Mr. and Mrs. Brown lost this coverage. While the Brown's appreciated not having to pay a premium, the Advantage plan did not offer comparable coverage and they were forced to seek a doctor who would accept their plan.

The couple contacted their local VICAP office to see what could be done to assist them with getting their former coverage back. The Medication Education Counselor tried to contact the agent who had given the presentation and a fraudulent enrollment complaint was submitted to Medicare Complaints. Within a day, the assigned caseworker contacted the Browns for a follow-up. Mr. and Mrs. Brown explained that they did not agree to have their plan switched and they were never told that their doctor does not have to accept their Medicare Advantage plan. The caseworker was willing to switch the them back to their previous plan; however, the employer-based plan was not willing to do so. The caseworker dis-enrolled them from the Advantage plan and placed them back into original Medicare.

The couple then discussed their options with the VICAP counselor who assisted them with obtaining a stand-alone PDP and a Medigap supplement, which works with original Medicare (Advantage plans do not). The Browns each selected a PDP based upon their different prescription drugs, but were able to select the same Medigap supplement. The Browns were happy that they could continue to see their same doctor and their overall

out-of-pocket health care expenses were less than before, even with having higher monthly premiums. The Browns were satisfied with their choices. They were advised to re-evaluate their plan choices annually to insure that they had the most affordable coverage given the revised plans each year.

Out-of-Pocket Expenses

Out-of-pocket expenses influence acquisition abilities and include those items that Medicare elders pay out-of-pocket to meet their healthcare needs (Centers for Medicare and Medicaid Services, 2005a). Part D enrollment and Extra Help (Limited Income Subsidy [LIS]) approval status may reduce out-of-pocket expenses possibly influencing antihypertensive acquisition decisions. These out-of-pocket expenses include the premiums, deductibles, and prescription drug co-pays as well as gap (*donut hole*) expenses and may influence Medicare elders' decisions to enroll in a Part D plan that may ultimately influence antihypertensive acquisitions.

Premiums

Part D premiums (see Table 3) vary by covered prescription drug and the amount of gap coverage offered by each plan (Blum, Bowman, & White, 2005; Centers for Medicare and Medicaid Services, 2006). The average monthly premium for PDPs rose by approximately 17% as contrasted with the Medicare Part B premium that experienced only a 3.1% increase from 2006 to 2007 (Hoadley, Thompson, Hargrave, Merrell, Cubanski, & Neuman, 2007). For 2008, the average monthly Part D premium is approximately $25 with annual increases expected (Henry J. Kaiser Family Foundation, 2008). Part D premiums may influence Medicare elders' decisions to enroll in a Part D plan and may affect their ability to acquire antihypertensives.

Table 3

Part D Premiums, Deductibles, Co-pays, Gap ("Donut Hole"), and Catastrophic Coverage Limits

Out of Pocket Expenditures	2006	2007	2008
Monthly Premiums (Range)	$8.81 - $56.50	$13.51 -$92.30	$15.10 - $64.80
Annual Deductibles	$250	$265	$275
Co-pays (per Rx)	Vary by plan	Vary by plan	Vary by plan
Annual Donut Hole ("Gap")	$2,400	$2,510	$2,525
Annual Catastrophic Coverage Limits	$5,451	$5,726	$5,754

Note. Adapted from Medicare Prescription Drug Discount Plans, 2006, 2007, 2008.

Deductibles

The decision to acquire a plan with a deductible lowered the monthly premium (Centers for Medicare and Medicaid Services, 2006). For those Medicare elders with LIS, deductibles were not applicable (Centers for Medicare and Medicaid Services, 2007). The deductibles (see Table 4) for Part D are subject to annual increases and vary by plan. Currently, Part D plan deductibles range from $0 to $275 for 2008. In 2007, the deductible ranged from $0 to $265 for those plans with a deductible and was slightly lower at $250 for 2006 (Henry J. Kaiser Family Foundation, 2006, 2007a).

Gap or Donut Hole Coverage

Coverage in the gap or *donut hole* is offered on a plan-by-plan basis; coverage is extremely limited (Centers for Medicare and Medicaid Services, 2006, 2008; Wilensky,

Table 4

Medication Education Database

Secondary Dataset Fields

Randomly Assigned Number	Marital Status	Emergency Contact Name	Insurance Status
Last Contact Date	Spouse Name	Emergency Contact Phone	Part D Status
Initial Contact Year	Home Address	Emergency Contact Type	Part D Date
Counselor	Home City	Extra Help Apply Status	Part D Plan Name
Type of Contact	Home State	Extra Help Apply Date	Referred From
Ethnicity	Home Telephone	Extra Help Application Status	Referred To
Gender	Alternative Telephone	Birth Date & Age	Stimulus Package
Title	Alternative Mailing Address	Plan Finder	Mental Health
First Name	Alternative City	Plan Finder Date	New to Medicare
Middle Initial	Alternative State	Health Status	New to Area
Last Name	Alternative Zip Code	Hypertensive Status	E-mail Address

2004). In FY 2006, coverage gaps occurred when Medicare elders reached out-of-pocket costs of approximately $2,400 until catastrophic coverage began at $3,051 (with total out-of-pocket expenditures of $5,451). In 2006, several plans offered gap coverage for both name brand and generics. However, for FY 2007 only one plan provided full gap coverage and discontinued that benefit for FY 2008. Often, plan providers have limited gap coverage (generics only) with six companies offering that benefit. For 2008, once Medicare members have paid more than $5,754 out-of-pocket costs, their co-pays will be 5% and Medicare will assume the other 95%. In the *donut hole* or *coverage gap*, Part D premiums are collected even though prescription drug discounts are minimal (Centers for Medicare and Medicaid Services, 2008).

Since the implementation of the Medicare Modernization Act (MMA), Medicare elders unwilling to pay higher premiums for minimal gap coverage (*donut hole*) may experience periods where they are responsible for 100% of prescription drug costs despite having a prescription drug discount plan (Centers for Medicare and Medicaid Services, 2006; Families USA, 2006). While in the coverage gap, Medicare elders may eliminate costly prescription drugs or reduce those perceived as nonessential without telling their physicians (Wilson, Schoen, & Neuman, 2007). The implications for these benefit limits are that Medicare elders are using fewer prescriptions with higher hospitalizations and decreased clinical outcomes (Hsu et al., 2008).

Bridging the Coverage Gap or Donut Hole

The ability to obtain coverage in the *donut hole* or *coverage gap* is extremely limited and currently applies to select generics (Centers for Medicare and Medicaid

Services, 2008). Methods utilized to save money may include pharmaceutical assistance programs covered by state funding (SPAPs), pharmaceutical assistance programs (PAPs) offered by individual prescription drug manufacturers, and charitable programs (national and community) that may provide discounted or free drugs. Additionally, switching to over-the-counter (OTC) or lower-cost generics or store brands may reduce out-of-pocket costs (Centers for Medicare and Medicaid Services, 2008). However, using the Medicare prescription drug plan throughout the year allows the appropriate accumulation of prescription drug spending to apply toward the catastrophic coverage amounts (Centers for Medicare and Medicaid Services, 2008).

Recent research (Madden, Graves, Zhang, Adams, Briesacher, Ross-Degnan et al., 2008) indicates that proposed *donut hole* or *coverage gap* solutions are minimally effective as not all Medicare elders know about the options and often only generics are available while the more expensive, name-brand drugs are excluded. Approximately 20% of Medicare elders continue to struggle when acquiring their prescription drugs.

Prescription Drug Co-pays

Prescription drug co-pays are based upon the negotiated prices offered under specific plans and are not the same at all drug stores (Centers for Medicare and Medicaid Services, 2006). Co-pays affect the total out-of-pocket costs and may influence Medicare elders' ability to acquire their prescription drugs with Medicare elders opting out of having prescription drugs refilled if they perceive that plan premiums and prescription drug co-pays (approximately $2.35 for generics and approximately $5.35 for name brands) are too high (Williams, 2002). Medicare elders with Extra Help (LIS) premiums are paid by Medicare and their co-pays are much lower (Centers for Medicare and Medicaid Services,

2008). While seemingly affordable, often Medicare elders with approved Extra Help are still unable to acquire their prescription drugs despite the financial assistance (Centers for Medicare and Medicaid Services, 2008; Kanavos & Gemmill, 2004; Williams, 2002).

Name Brands versus Generics

Research (Federman et al., 2006; Spence, Hui, & Chan, 2006) indicates that Medicare elders could greatly reduce their out-of-pocket expenses by switching to generics. Medicare's plan finder (www.medicare.gov) uses generic prices, where available, to calculate expected annual plan costs for the prescription drug benefit (Gavin, 2007). Additionally, Medicare elders are instructed to ask their doctors to switch their brand name prescriptions to generics in effort to lower out-of-pocket expenses, as well as to help bridge coverage gaps (Centers for Medicare and Medicaid Services, 2008). Cost savings of approximately 73% are expected for Medicare beneficiaries who switch from brand name prescribed drugs to generic versions (Centers for Medicare and Medicaid Services, 2005c). However, research to determine if income influenced generic prescription drug use indicated that slightly more low-income Medicare elders were more likely to use generics as opposed to those who were more affluent (Federman et al., 2006).

Mail Order and Reimportation Options

Two cost-saving methods being used by Medicare elders to save money on prescription drugs include mail order and reimportation (Reed, 2005). Mail order offered by PDPs may legally save Medicare elders on prescription drug costs (Centers for Medicare and Medicaid Services, 2005a). However, Medicare elders must consider the availability of mail order under plans and its costs to acquire prescription drugs; of special concern to Medicare elders when using mail order are the perceived costs (90-day supply)

and shipping costs (Centers for Medicare and Medicaid Services, 2006). Additionally, in their efforts to save money Medicare elders may choose to acquire prescription drugs through reimportation from Canada, Mexico, or European countries (*American Journal of Nursing*, 2004; Weschler, 2004a). Although Medicare elders believe savings are being realized, reimportation is a grey area with some plans recognizing prescription drugs acquired from abroad, while other plans provide no cost incentive to pursue reimportation (*American Journal of Nursing*, 2004; Weschler, 2004a).

Understanding Health Behavior

To address health behaviors and propose solutions for overcoming health-related barriers, researchers developed models to examine these phenomena (Johnson, 2002; Rosenstock, Strecher, & Becker, 1988). These models have been used to develop intervention methods for improving health outcomes. They attempt to explain health-related behaviors with the intent of developing interventions to improve health outcomes (Johnson, 2002; Rosenstock, Strecher, & Becker, 1988). The Health Belief Model (HBM) and the Medication Adherence Model (MAM) are two models designed to examine health beliefs and behaviors that influence whether individuals will overcome barriers necessary to practice healthier behaviors or adhere to prescribed treatment regimens (Bandura, 1986; Janz & Becker, 1984; Johnson, 2002). However, antihypertensive acquisition decisions, due to their complex nature, require integrated multidisciplinary approaches to understand decision-making strategies and processes used by Medicare elders.

Theory and Models

The intent of this study was to develop and test an integrated multidisciplinary theoretical model that accurately depicted antihypertensive acquisition behaviors. This

study tested the enhanced Health Belief Model (HBM), which includes self-efficacy (Bandura, 1997; Janz & Becker, 1984), against the proposed Pharmaceutical Acquisition Model for Medicare Elders (PAMME) to determine whether the proposed model is better at explaining Medicare elders' antihypertensive acquisition behaviors. The proposed PAMME was tested to determine if it could explain which factors influence antihypertensive acquisition by Medicare elders, accounting for cost and usage intentions. In particular, it explored the attitudes and beliefs of Medicare elders as they specifically relate to health insurance, hypertension, antihypertensives, and adherence decisions to determine what influences they have on antihypertensive acquisition. This study examined those attitudes and behaviors that influence antihypertensive acquisition to determine predictability from the various influencers that may contribute to antihypertensive acquisition. By understanding the health beliefs and behaviors that lead to acquisition behavior, utilizing consumer choices, and adherence decisions for Medicare elders, it may be possible to improve prediction for antihypertensive acquisition and adherence behaviors.

Assumptions

In an examination of Medicare elders' acquisition of antihypertensives several assumptions were made, namely:

1. Medicare elders are capable of rational decision making with respect to antihypertensive acquisitions.

2. Medicare elders who enroll in a Part D plan do so with the belief that they will reduce their out-of-pocket acquisition costs for antihypertensives.

3. Medicare elders who apply and are approved for Extra Help believe that they will reduce their out-of-pocket acquisition costs for antihypertensives.

4. Medicare elders were honest about their antihypertensive acquisitions.

Limitations

Several limitations to this study were indicated. They are as follows:

1. Administered survey responses are self-reported and may not accurately reflect antihypertensive acquisition experiences.

2. The telephone may not be the best method of communication for Medicare elders due to hearing or comprehension concerns.

3. The study is limited to English-speaking, hypertensive, consenting Medicare elders. Their experiences may differ from those not consenting to participate.

4. Medicare elders who are not competent to make their own health-care decisions were excluded from the study.

5. Medicare enrollment data to be utilized excludes disabled and those not subject to Medicare Part D enrollment (military or government retirees or other individuals with creditable coverage).

Research Questions

1. To what extent do Medicare elders actually acquire antihypertensives as prescribed?

2. To what extent does the enhanced Health Belief Model (HBM) overall explain antihypertensive acquisition behavior for hypertensive Medicare elders?

2a. Do individual perceptions about disease severity influence Medicare elders' decision to acquire antihypertensives?

2b. Do perceived benefits of antihypertensives influence Medicare elders' decision to acquire antihypertensives?

2c. Do perceived barriers to acquiring antihypertensives influence Medicare elders' decision to acquire antihypertensives?

2d. Does perceived seriousness of hypertension influence Medicare elders' decision to acquire antihypertensives?

2e. Do cues to action influence Medicare elders' decision to acquire antihypertensives?

3. To what extent do constructs from other models (Medication Adherence Model and Consumer Choice Theory Model) help to explain antihypertensive acquisition behavior for Medicare elders?

3a. Are Medicare elders confident that they can overcome antihypertensive out-of-pocket cost barriers in order to acquire antihypertensives?

3b. Do Medicare elders perceive other barriers to acquiring antihypertensives?

4. Does the integrated Pharmaceutical Acquisition Model for Medicare Elderly (enhanced Health Belief Model with constructs from Consumer Choice Theory and Medication Adherence) explain antihypertensive acquisition behavior for Medicare elders better than the enhanced Health Belief Model?

Significance of the Study

This study examined underuse as it related to antihypertensive acquisitions. Prescription drug underuse has been a concern for healthcare providers who want to improve patients' health (Ead, 1998; Gottlieb, 2000; Kirking et al., 2006). Through treatment regimens that include regular access to and refill acquisitions by Medicare elders,

healthcare providers may assist in controlling or preventing adverse health events (Ead, 1998; Mojatabai & Olfson, 2003; Vik et al., 2006). However, despite the implementation of the Medicare Modernization Act (MMA) of 2003 to reduce prescription drug costs, acquisition decisions and related underuse continue to affect Medicare elders (Bowman, 2007; Henry J. Kaiser Family Foundation, 2007; Hsu et al., 2008). Acquisition of affordable prescriptions, including antihypertensives, is necessary so that Medicare elders can take antihypertensives as prescribed (Bardel, Wallander, & Svardsudd, 2007).

Understanding low-income, Medicare elders' antihypertensive acquisition behaviors has important implications for future prescription drug treatment and health implementation efforts. The acquisition of antihypertensives has the potential to reduce hypertension-related complications by reducing preventable doctor and emergency department visits, thereby reducing hypertension-related mortalities and health-care costs (Cutler et al., 2007; Malhotra, Karan, Pahdhi, & Jain, 2001; Mojatabai & Olfson, 2003; Nilsson, 2005). For this study, antihypertensive acquisition specifically was examined as an outcome to analyze Medicare elders' beliefs about hypertension. Medicare elders' Part D enrollment decisions and behaviors were examined to determine which factors influenced legal antihypertensive acquisitions. Understanding what decision-making and consumer processes Medicare elders follow to decide whether to be screened for Extra Help, participate in a Part D plan, and ultimately acquire their antihypertensives may help in forming or refining policy. These findings also may have multiple applications for other services and products designed to benefit the health of Medicare elders.

Chapter 2

LITERATURE REVIEW

Theoretical Framework: Models Used to Explain Health Behaviors

Health Belief Model (HBM)

The original Health Belief Model (HBM) was designed to explain general health-related behavior (Janz & Becker, 1984; Rosenstock, Strecher, & Becker, 1988). The Health Belief Model (HBM) (Janz & Becker, 1984) (see Figure 3) may be useful in determining which antihypertensive perceptions and beliefs have an influence on antihypertensive acquisition behaviors for Medicare elders.

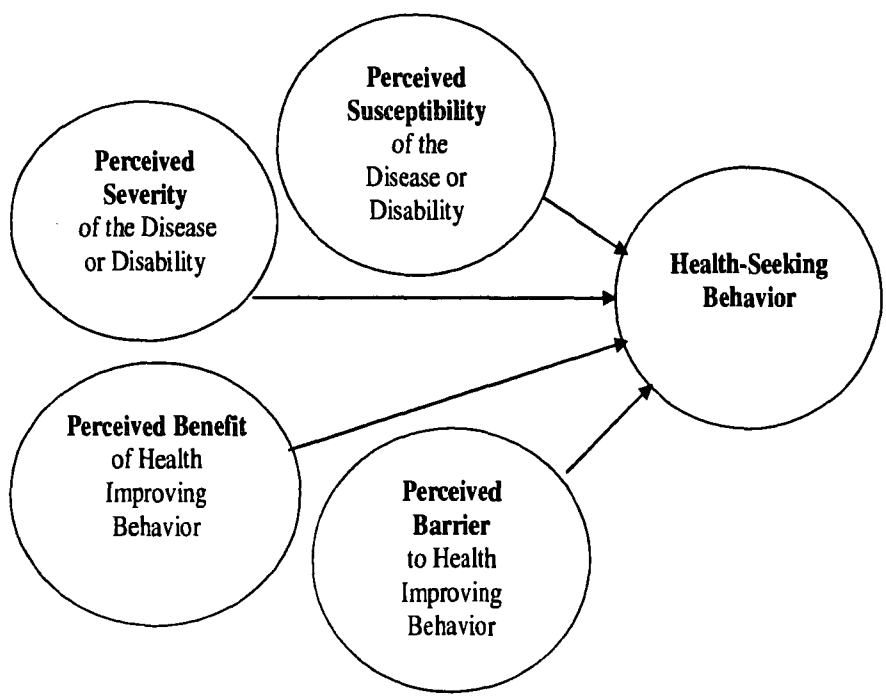

Figure 3. Health Belief Model (HBM).

Constructs of the Health Belief Model

The five constructs of the original Health Belief Model are as follows: perceived susceptibility, perceived severity, perceived benefit, perceived barrier, and health-seeking behaviors) (Janz & Becker, 1984; Rosenstock, Strecher, & Becker; 1988). *Perceived susceptibility* of a disease or illness relates to Medicare elders' perceptions about the disease; i.e., what they know about their chances of being diagnosed with the disease (University of Maryland, 2003). *Perceived severity* for the disease often depends upon the severity of symptoms or severity of an illness (Balkrishnan, 1998). *Perceived benefits may* include feeling better by controlling hypertension and preventing adverse health complications (Horne & Weinman, 1999). *Perceived barriers* to antihypertensive acquisitions may include the cost, pharmacy location, and insurance status (Bowman, 2007; George et al., 2006; Horne & Weinman, 1999). Additional perceived barriers may include transportation (Klein, Turvey, & Wallace, 2004), the ability to open bottles, health literacy level, and remembering to refill prescriptions (Grymonpre, Didur, Montgomery, & Sitar, 1998; Spiers & Kutzik, 1995). *Health-seeking behaviors* may include acquiring prescribed prescription drugs and taking them as directed in support of health-seeking behaviors for chronic disease control (Antonacci, 2002).

Enhanced Health Belief Model

The enhanced Health Belief Model (see Figure 4) adds Bandura's self-efficacy theory (Bandura, 1986) to the original Health Belief Model (HBM) (Janz & Becker, 1984), which examines an individual's perceived abilities with regard to performing health-seeking behaviors and actions (Bandura, 1986). The enhanced HBM is useful for exploring

behavior changes and using motivation as a function of action to achieve a specified outcome (Bandura, 1986; Janz & Becker, 1984; Rosenstock, Strecher, & Becker, 1988).

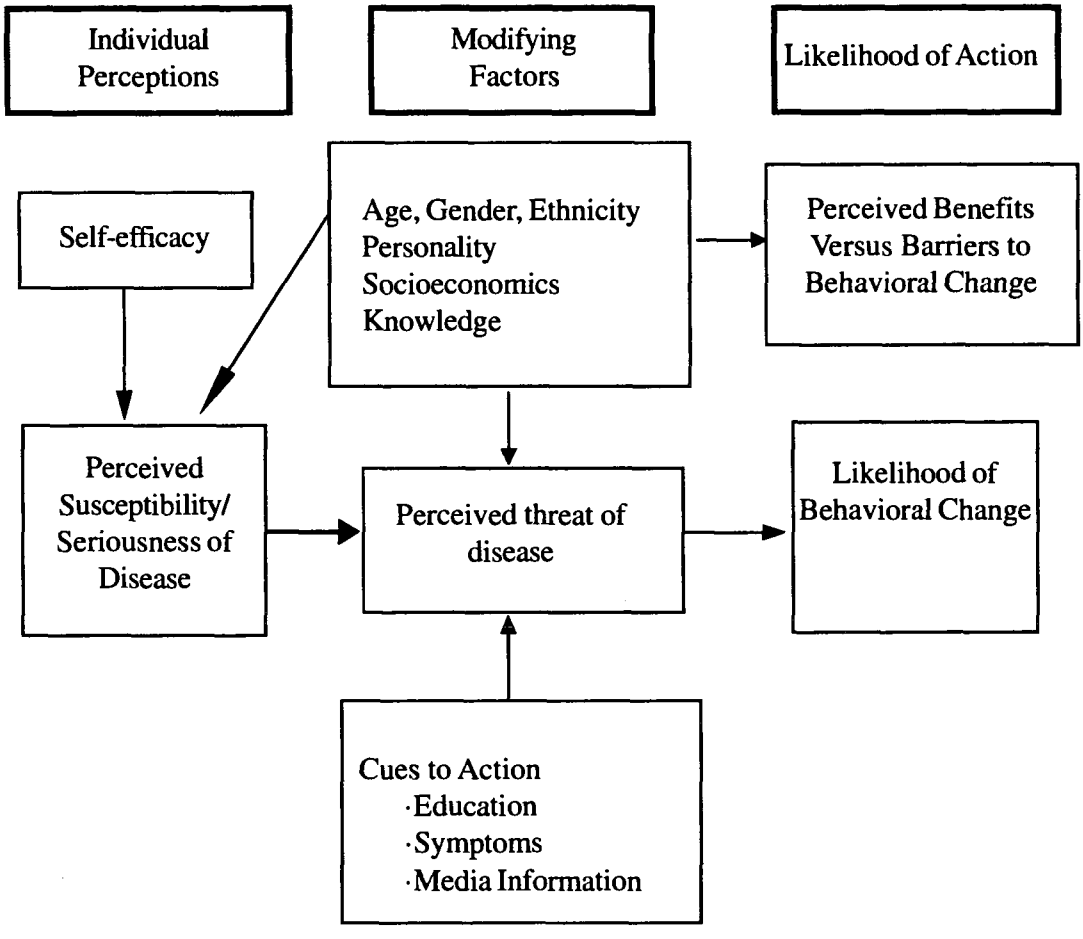

Figure 4. Enhanced Health Belief Model.

Constructs of the Enhanced Health Belief Model

The enhanced Health Belief Model (HBM) has three constructs (individual perceptions, modifying factors, and likelihood of action) that influence levels of health

Individual Perception

Individual Perceptions includes self-efficacy, perceived susceptibility, and seriousness. Individual perceptions were explored to determine if self-efficacy has an influence on perceived susceptibility and perceived seriousness of hypertension has an influence on Medicare elders' ability to make decisions for antihypertensive acquisitions.

Self-efficacy is an individual's perception of being able to complete the desired task or health behavior (Bandura, 1997). Including self-efficacy in the enhanced Health Belief Model strengthens the willingness to change or perform an action by an individual believing that he or she has the ability to perform the desired health behavior (Bandura, 1997). Without the ability to perform the behavior, while the desire may be there, the action will remain incomplete (Bandura, 1997). However, attitudes and beliefs alone may not be sufficient to motivate an individual to perform the health action if he or she perceives the barriers as too great to accomplish the task (Rosenstock, Strecher, & Becker, 1988)

Perceived susceptibility refers to the likelihood that an individual may be diagnosed with the disease. Medicare elders may or may not perceive that they are susceptible for hypertension.

Perceived seriousness of disease may influence individual perceptions about the threat of disease. Individual perceptions may lead to behavioral changes if the perceived seriousness and perceived threat of the disease lead to health-seeking behaviors. As hypertension often is a "silent killer," asymptomatic Medicare elders may not perceive hypertension as a real threat. Medicare elders not experiencing adverse hypertensive symptoms may not perceive the need for treatment (American Heart Association, 2007b).

Modifying Factors

Modifying factors include demographics (age, gender, ethnicity, and marital status) and socioeconomic variables (e.g., income level, social support systems) (Balkrishnan, 1998).

Age continues to be a factor as Medicare elders are increasingly diagnosed with hypertension (American Heart Association, 2007a). *Gender* may also be a factor since both men and women are equally affected by the hypertension. *Ethnicity* is important, as African Americans are more prone to hypertension while Hispanics and Asians are increasingly being afflicted, as their dietary conditions resemble Western society (University of Maryland, 2003). *Marital Status* has an influence, as married Medicare elders are more likely to have their hypertension under control (U.S. Department of Health and Human Services, 2003).

Income level has an influence as lower-income Medicare elders are increasingly diagnosed with hypertension in comparison with their more affluent peers (Federman et al., 2006; Sarver, Sudano, & Baker, 2000). *Social support systems* may provide some benefit in both friends and relatives helping to reduce hypertension and in monitoring antihypertensive usage (University of Maryland, 2003). *Perceived threat of disease* may depend upon Medicare elders' knowledge and perception about the seriousness of their illness, and their perceptions about taking prescription drugs (Horne & Weinman, 1999). *Cues to action* may include media coverage of antihypertensive issues via television or radio announcements, talk shows, newspaper articles, and health fairs (Mattson, 1999).

Likelihood of Action

Perceived benefits to behavioral change include a greater likelihood that an individual will obtain and use a antihypertensive as prescribed if it is perceived that it is effective for treating hypertension (Piette, Heisler, & Wagner, 2004a). Acquisition and adherence decisions may be influenced by the number of prescriptions, dosage frequency, and beliefs about the benefits of specific prescription drugs (Graupner, Frost, Weinman, Wright, & Hankins, 2004; Osterberg & Blaschke, 2005; Ostrosky, 2003; Piette, 2005).

Perceived barriers to behavioral change for antihypertensive acquisition may include the cost, pharmacy location, insurance status (George et al., 2006; Horne & Weinman, 1999; Klein, Turvey, & Wallace, 2004), or their effectiveness and safety, which may influence adherence motivations (Cooper, Love, & Raffoul, 1982).

The *likelihood of behavioral change*, in the likelihood of action component of the enhanced HBM would be following treatment guidelines through the acquisition of antihypertensives as prescribed. The likelihood of behavioral change also may depend upon the perceived threat of hypertension and perceptions of elders' ability to obtain prescribed antihypertensives (Jackson, Doescher, Saver, & Fishman, 2004).

Empirical Support for the Health Belief Model

The Health Belief Model (HBM) utilizes behavioral change theories in an attempt to explain and predict health behaviors by examining individual attitudes and beliefs that prompt the individual to take a specific health action (Foley, Vasey, Berra, Alexander, & Markson, 2005; Glanz, Lewis, & Rimer, 1990). The HBM has been used to explain health promotion and prevention behaviors utilizing individual perceptions and beliefs for disease states and treatment approaches. The enhanced HBM, with the inclusion of self-efficacy,

has applications to research that explore individual perceptions about access and the perceived ability to overcome barriers necessary to achieve a desired health outcome (Bandura, 1986; Rosenstock, Strecher, & Becker, 1988). Previous research studies have effectively used the HBM to understand change within patient populations (Al-Ali & Haddad, 2004; Aquino, Fyfe, MacDougall, & Remple, 2004; Atta, 1994; Carroll, 2003; Mattson, 1999; NexÆe, Kragstrup, & SÆgaard, 1999; Vernon, 1999). The HBM also has been used to develop the Osteoporosis Health Belief Scale (Kim, Horan, Gendler, & Patel, 1991) to examine breast and other cancer-screening programs (Barnes & Thomas, 1990; Brown & Williams, 1994; Lasbley, 1987) as well as explore bodily changes of illness in older adults (Haug, Musil, Warner, & Morris, 1998).

The Health Belief Model (HBM) has been used to study patient compliance for congestive heart failure (Lacey, 1988) and hypertension (Leeser, 1989). The perceived seriousness of the illness and perceptions individuals have about a specific disease or illness may reflect their need to adhere to prescription drug regimens (Balon, 2002; Bardel, Wallander, & Svardsudd, 2007; Jackson et al., 2004). However, the impetus to change a situation must be present to achieve a desired outcome (Janz & Becker, 1984). Often, multiple and complex decision-making processes exist for specific prescription drug acquisitions decisions including those for antihypertensives (Morrow, Leirer, & Sheikh, 1988), and individuals may choose to discontinue specific prescription drugs (for cholesterol and high blood pressure) that they believe to be no longer necessary, especially when they are feeling better (Vik et al., 2005).

Review of Studies that Use Health Beliefs to Predict Prescription and Other Health Behaviors

Health Belief-related Research

Studies that examine perceptions about disease state are necessary to understanding hypertension-related perceptions and health-seeking behaviors. Several studies have specifically addressed prescription drugs (Xu, Smith, & Borders, 2003). Research to study health-seeking behaviors for myocardial infarction, based upon elders' perceptions of symptoms, found that four factors (symptom, attribution, severity and duration, attribution to comorbid and chronic conditions) as well as previous experience may influence treatment-seeking behaviors (Ryan & Zerwic, 2003). Medicare elders with a family history of hypertension or with friends or family members with disease-related complications may perceive the hypertension as more threatening than Medicare elders who have not experienced adverse symptoms or previous disease-related experience(s) (Schlomann & Schmitke, 2007). Family members, caregivers, or social support systems also may contribute to Medicare elders' decision to acquire antihypertensives with usage intentions (Jackson et al., 2004).

Research has shown that individuals who perceive barriers to affordability or do not perceive that their illness is that severe may use rationing methods to extend prescriptions through pill splitting, skipping dosages, and delays in refilling prescriptions or sharing prescriptions with friends or family members (Hughes, 2004). Other barriers explored in research include individual perceptions about the effectiveness and safety of antihypertensives, which have influenced adherence motivations (Cooper, Love, & Raffoul, 1982; Gohar, Greenfield, Beevers, Lip, & Jolly, 2008). Low self-efficacy for acquisition

and adherence to prescription drug regimens has been shown to influence adversely acquisition and usage (Resnick, Wehren, & Orwig, 2003).

Attitude and Behavior-based Research for Prescription Drugs

Research gathered prior to the Medicare Modernization Act (MMA) with Medical Expenditure Panel Survey data for Medicare elders used an access-based approach to examine prescription drugs (i.e., determinants of realized, perceived, and potential access) and found that perceptions about overcoming illness without assistance was linked to lower odds of taking prescription drugs (Xu, Smith, & Borders, 2003). Other research studies have indicated that higher acquisition and adherence rates may be linked to beliefs about health-care providers (MacLaughlin, Raehl, Treadway, Sterling, Zoller, & Bond, 2005). The level of relationship that patients have with their doctors, specifically supportive relationships, reflects improvement in adherence levels (Piette, 2005; Rosenblatt, Wright, Baoldwin, Chan, Clitherow, Chen, et al., 2000). Other hypertensive research has focused upon nutrition education programs (Klinedinst, 2005) to reinforce health-promoting behavior and beliefs such as losing weight, controlling salt intake, and working out at a fitness club also may reflect health-seeking behaviors (Antonacci, 2002).

The conscious decision to acquire or adhere to specific prescription drugs often reflects patients' attitudes about their effectiveness and safety (Horne & Weinman, 1999) and varies by ethnicity (Reed, Hargraves, & Cassil, 2003), disease states (Jackson et al., 2004) and income levels (Bowman, 2007). Medicare elders with knowledge about hypertension's possible symptoms, signs, and complications may perceive that hypertension is more threatening than those who are not as knowledgeable (Schlomann & Schmitke, 2007) and may be more likely to perceive antihypertensive acquisition as

necessary to their health (American Heart Association, 2007a). Perceived benefits also may be the perception of an improved quality of life through chronic disease control that may include the reduction in emergency room visits, increased disease control or the prevention of disease-related complications derived from following treatment regimens by acquiring antihypertensives as prescribed (Andrawes, Bussy, & Belmin, 2006; Benson & Britten, 2002; Meyer, 2002). Additionally, acquiring antihypertensives according to prescribed guidelines may have the potential to improve health outcomes through increased adherence (Schwartz & Sheps, 2006). If Medicare elders perceive that hypertension is a serious disease with preventable complications, or if they perceive there is a chance of experiencing adverse disease-related complications, then they may be more likely to seek and adhere to treatment (University of Maryland, 2003).

However, Medicare elders may not always refill prescription drugs regularly due to cost considerations (Bowman, 2007). Individuals who perceive barriers to affordability or do not perceive that their illness is that severe may use rationing methods to extend prescriptions through pill splitting, skipping dosages, and delays in refilling prescriptions or sharing prescriptions with friends or family members (Hughes, 2004). However, barriers to antihypertensive drug usage may include affordability issues, the ability to open bottles, literacy levels, as well as remembering (Grymonpre et al., 1998; Piette et al., 2004; Spiers & Kutzik, 1995).

Components Added to the Enhanced Health Belief Model

While the Health Belief Model (HBM) has proved useful for explaining the behavioral and cognitive factors related to health beliefs and behaviors, the components for understanding consumer acquisition decisions and specific antihypertensive usage as

influenced by cost considerations is still lacking. The specific model components to be added to the enhanced HBM include consumer decision-making factors (Consumer Choice Theory) and medication adherence-related (Medication Adherence Model) health behaviors and attitudes Medicare elders exhibit with respect to acquisition of antihypertensives. The focus of this examination was upon antihypertensive drug acquisition; specifically, how price (Part D plan premiums and prescription drug co-pays) influence Medicare elders' consumer acquisition decisions and health-seeking behaviors.

The Consumer Choice Theory

The Consumer Choice Theory (see Figure 5), as adapted from Friedman (1990), was used to examine to what extent premium price influences plan enrollment and whether Extra Help status influences antihypertensive acquisition decisions in the construct of the enhanced HBM. The Consumer Choice Theory attempts to explain the behavior of rational consumers in maximizing acquisition opportunities given their budget constraints (Folland, Goodman, & Stano, 2004). Medicare elders often subsist on fixed or limited incomes such that budget constraints and price are often factors considered in antihypertensive acquisition decisions and behaviors (Gaskin et al., 2006).

Constructs for Consumer Choice Theory

To examine consumer acquisition decisions, constructs from the Consumer Choice Theory (Friedman, 1990) are employed to understand what factors influence an individual's decision to acquire antihypertensives with usage intentions. Consumer Choice Theory extends the behaviors of individuals to acquiring decisions that are designed to maximize their utility while reducing costs (Friedman, 1990). Consumer Choice Theory is based upon economic theory that looks at the relationship between the price and the value

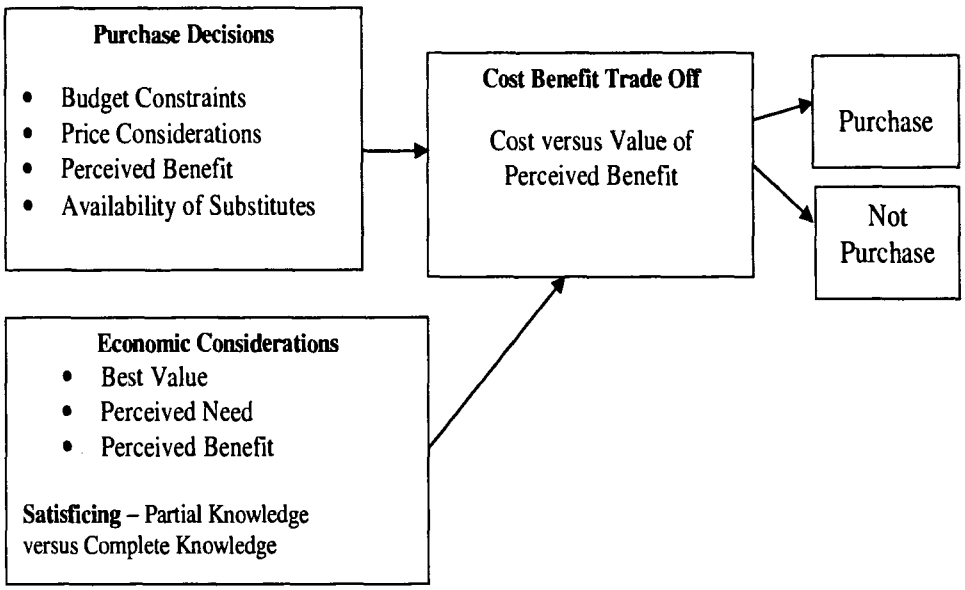

Figure 5. Consumer Choice Theory.

that consumers place on select goods (Friedman, 1990). The cost-benefit tradeoff decision-making behaviors for antihypertensive acquisitions were examined to determine whether price is a good indicator of acquisition decision (Winter et al., 2006). Satisficing requires trade-offs with Medicare elders making informed choices by researching plan information, prescription drug costs, and estimating their expected annual out-of-pocket expenditures (Folland, Goodman, & Stano, 2004). Consumer choices are satisficing; if complete information had been available, then the decision might have been different (Folland, Goodman, & Stano, 2004). The Consumer Choice Theory is incorporated into the enhanced HBM by adding select components under Cues to Action. The assumptions that the Consumer Choice Theory makes is that consumers are rational and make acquisition decisions to maximize utility (Friedman, 1990). As resources are limited, cost-benefit trade-offs that maximize consumer utility makes rational sense (Friedman, 1990). The

Consumer Choice Theory (see Figure 6) as it relates to the Medicare Modernization Act of 2003 (MMA) includes various options to be included in the complex decision-making process.

Empirical Support for the Consumer Choice Theory

Recently, researchers have attempted to develop an understanding of consumers' choices, predictions, judgments, and outcomes (Fonseca & Zeidan, 2004; Lynch & Zauberman, 2007). A correlated research study looks at construing consumer decision making to understand "how consumers represent outcomes and weigh different decision criteria" (Lynch & Zauberman, 2007, p. 107). The decision to acquire often involves complex decision making for which consumers may not have enough information to make an informed decision (Thull, 2007). However, understanding the decision-making processes, as well as the cost benefit trade-offs that are used when selecting a Part D prescription drug plan or applying for Extra Help, may lead to a better understanding of Medicare elders' perceptions of the barriers to and benefits of acquiring antihypertensives.

Previous research in 1996 was conducted to understand long-term care choices and personal decision-making styles that outlined four decision-making style categories (scramblers, reluctant consenters, wake-up call, and advance planners) that highlighted trade-offs given long-term care decision-making scenarios (Maloney, Finn, Bloom, & Andresen, 1996). A more recent study examined media interaction between the ageism message and elderly perceptions of health care needs (Hodgetts, Chamberlain, & Bassett, 2003). Additionally, research conducted to understand consumer health plan switching has been studied for quality effect with results showing low satisfaction for those with chronic illness (Abraham, Feldman, Carlin, & Christianson, 2006).

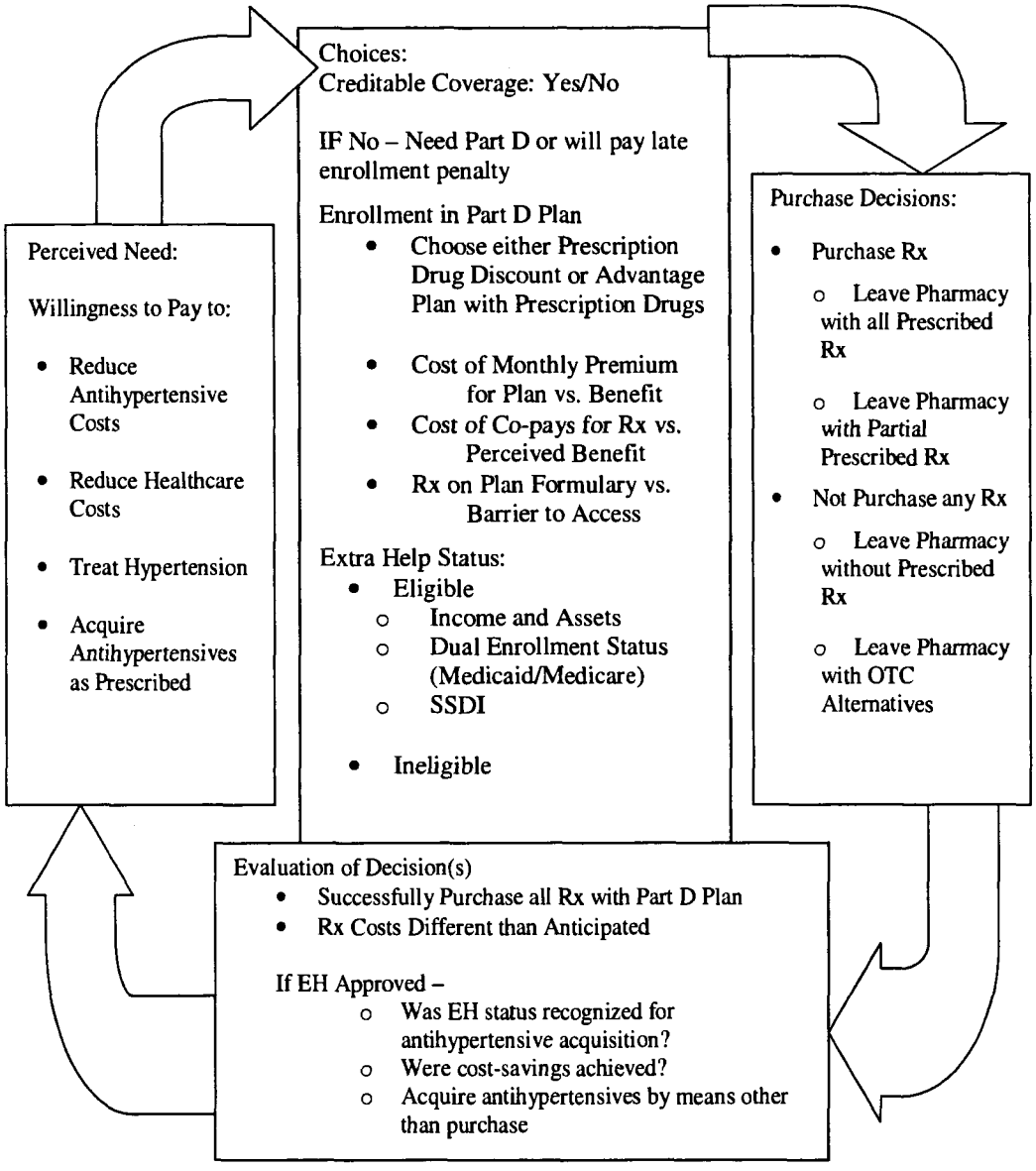

Figure 6. Consumer Choices - Acquiring Antihypertensives.

Willingness to Pay

The *ability* to pay is often based upon income and wealth, while the *willingness* to pay is the *value that an individual places upon a good or service and the price he or she is willing to pay to get it* (Donaldson, Thomas, & Torgerson, 1997). The ability to test for willingness to pay is difficult if the question is phrased too broadly; whereas, if a choice between two items is offered (i.e., "*Would you rather pay $10 to go the circus or would you rather go to a movie?*") specific preferences may be identified (Donaldson, Thomas, & Torgerson, 1997). In the case of healthcare, willingness to pay may be determined by the perceived need for the procedure or treatments (e.g., spend $5,000 for liposuction versus putting a down payment on a new car or spend $300 to have a mole removed and biopsied versus having dental work).

Economics-based Medicare Prescription Drug Research

A 1978 study of perception of risk for generically prescribed drugs showed concern among consumers for generic drugs that indicates a shift in perceptions in more recent research that shows increased acceptance of generics for certain socioeconomic status and based upon reflected cost savings (Bearden & Mason, 1978). Another study, which used the RAND *Elderly Health Supplement* to the 1990 Panel Study of Income Dynamics (PSID) demand model of drugs, examined insurance status and the effects on expenditures. Results revealed significant findings for out-of-pocket expenditures for hypertension as well as proposing the addition of the prescription drug benefit to Medicare to *reduce significantly out-of-pocket costs* (Lillard, Rogowski, & Kington, 1999).

The Medication Adherence Model

The Medication Adherence Model (MAM) (see Figure 7) was developed to understand medication-taking behaviors and to explain prescription drug adherence decision-making processes for treating hypertension (Johnson, 2002). Understanding how Medicare elders perceive the effectiveness, safety, and benefits of antihypertensives will require components of the MAM (Johnson, 2002), which may influence antihypertensive acquisitions. The MAM also may be useful in examining acquisition behaviors for antihypertensives.

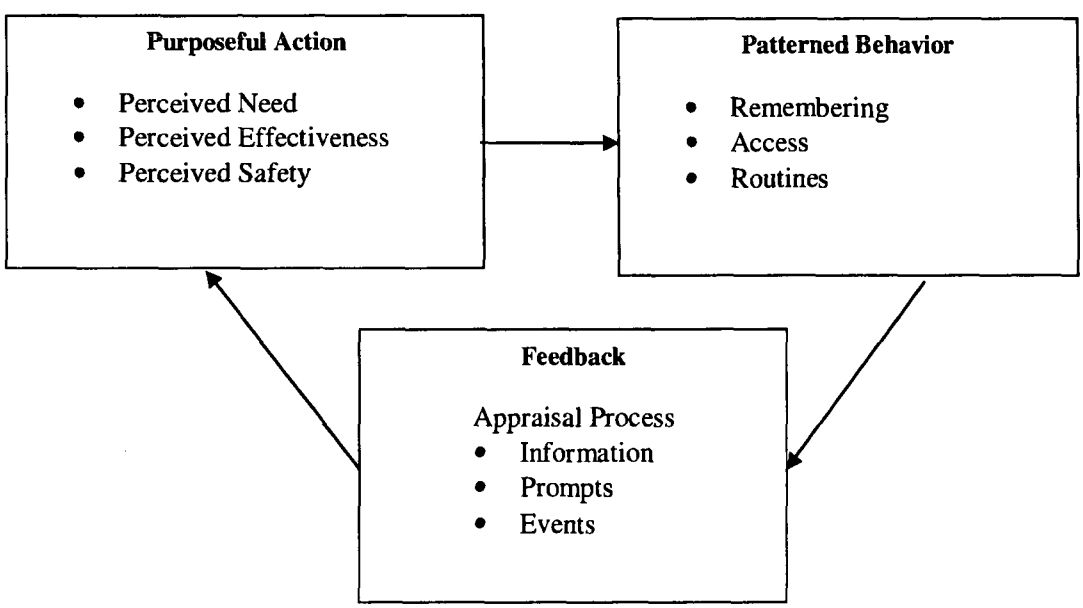

Figure 7. Medication Adherence Model.

Constructs of the Medication Adherence Model (MAM)

The Medication Adherence Model (MAM) has three constructs that include purposeful action, patterned behavior, and feedback (Johnson, 2002). *Purposeful action* encompasses individual decisions to use prescription drugs based upon perceived effectiveness and safety. *Patterned behavior* includes access, routines, and remembering. *Feedback* includes an individual's use of events, information, or prompts, which influence levels of purposeful action and patterned behavior.

Select components of the Medication Adherence Model (MAM) were added to the enhanced Health Belief Model (HBM) to test these constructs as well. These factors were included in the enhanced HBM with a special emphasis on interaction between behaviors and beliefs, cost considerations, and actual reported usage resulting from decisions to acquire antihypertensives. The beliefs and perceptions that Medicare elders have about antihypertensives, as well as Medicare elders' perceptions about the effectiveness and safety of antihypertensives, may influence decisions to acquire antihypertensives with usage motivations (Lehan & McCarthy, 2006). Acquisition with intention to use decisions are important when exploring the decisions and behaviors related to antihypertensive acquisitions, as acquisition of antihypertensives would not be perceived as necessary if Medicare elders had no intention of taking them once acquired.

Constructs adapted from the MAM (see Figure 8) were used; specifically the perceptions about need, effectiveness, and safety of antihypertensives, based upon health beliefs and behavior components (Johnson, 2002) that were included in the proposed Pharmaceutical Acquisition Model for Medicare Elders (PAMME).

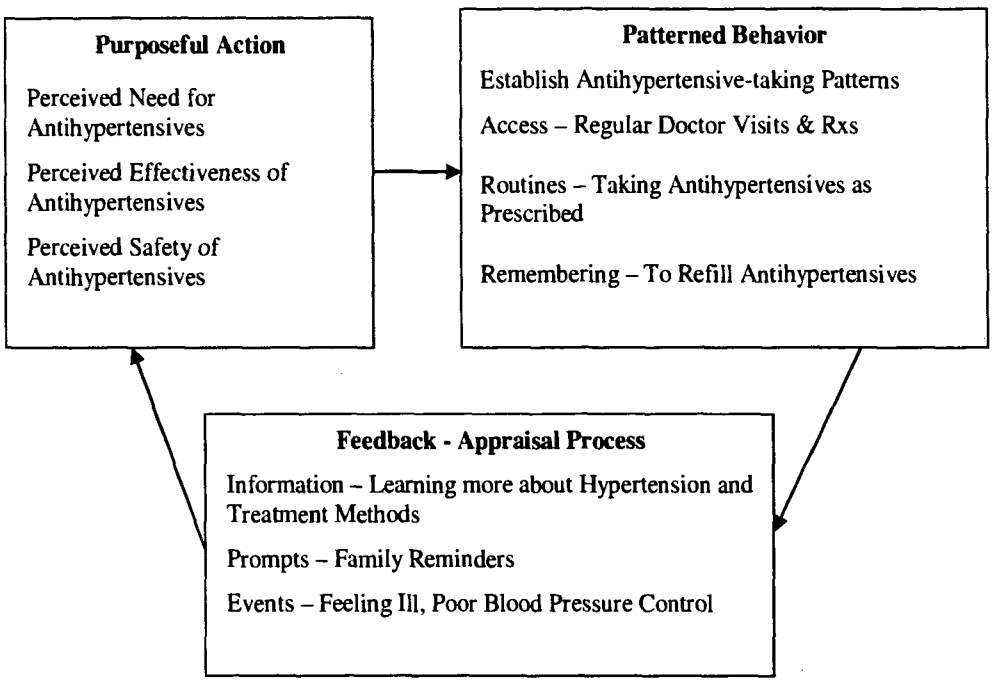

Figure 8. Medication Adherence Model for Antihypertensives.

Empirical Support for the Medication Adherence Model

Research that examines adherence for Type 2 Diabetes Mellitus has been studied to develop interventions that will improve health treatment behaviors (Vermeire, Wens, Royen, Biot, Hearnshaw, & Lindenmeyer, 2008). Several other studies have been conducted to develop interventions for adherence to oral hygiene instructions (Renz, Ide, Newton, Robinson, & Smith, 2008), lipid-lowering medication (Schedlbaurer, Schroeder, Peters, & Fishey, 2008) as well as high blood pressure treatment (Schroeder, Fishey, & Ebrahim, 2008). The studies reviewed for high blood pressure found that simplified dosing and complex reminder systems were effective in improving adherence; however, the studies did not report education to be effective (Schroeder, Fishey, & Ebrahim, 2008).

Limitations of Current Theories

Understanding the complexity of adherence to treatment regimens has been heavily researched, but the interaction of acquisition, price, and intention to use is lacking. While the current health behavior theories have proven quite useful in understanding health-related behaviors for prenatal care (Atta, 1994), oral hygiene (Carroll, 2003), exercise participation (Ali-Ali & Haddadd, 2004), and chronic health behaviors (Horne & Weinman, 1999), they lack a utility component related to acquisition. Often health behavior and health belief theories are individualized. They exclude external monetary aspects of the cost of acquiring health care. The influence of price and the effect that price has on health beliefs and behaviors are missing from the current theories. In an attempt to incorporate economic and nursing theory into the existing enhanced Health Belief Model multidisciplinary approach an integrated model to understand the complexity of Medicare elders' decision-making process for the acquisition of antihypertensives was necessary.

Pharmaceutical Acquisition Model for Medicare Elders (PAMME)

As no model currently exists that incorporates beliefs, decision-making strategies, consumer behaviors (with respect to cost and underuse factors) specific components of the enhanced Health Belief Model (HBM), which includes self-efficacy (Bandura, 1997) and constructs from the Consumer Choice Theory (Friedman, 1990) were used to develop the Pharmaceutical Acquisition Model for Medicare Elders (PAMME) (see Figure 9). For the purpose of this examination the five factors of the enhanced HBM (Janz & Becker, 1984), with constructs from the Consumer Choice Theory (Friedman, 1990) and the Medication Adherence Model (Johnson, 2002) were used to develop a new multidisciplinary theoretical model to predict the processes that Medicare elders undergo when making

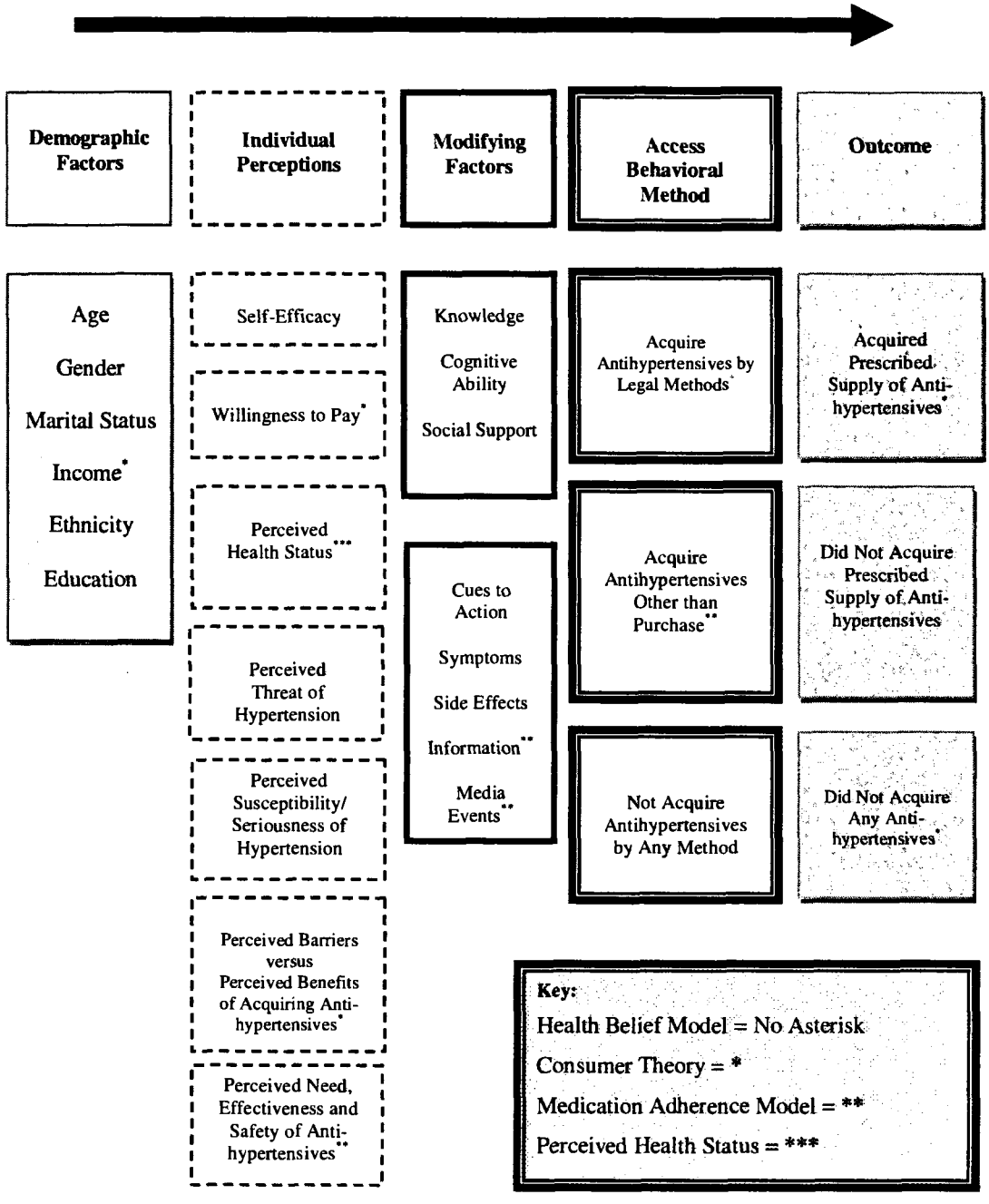

Figure 9. Proposed Model of the Pharmaceutical Acquisition Model for Medicare Elders (PAMME)

antihypertensive acquisition decisions. Perceptions that Medicare elders have regarding their health status may influence their willingness to acquire prescription drugs designed to prevent or treat health conditions, specifically hypertension. Understanding what influences Medicare elders' MMA participation, Extra Help application, and antihypertensive acquisition decisions requires a complex decision-making process that involves trade-offs among the competing barriers and benefits.

The proposed Pharmaceutical Acquisition Model for Medicare Elders (PAMME) incorporates components from the enhanced Health Belief Model (HBM) with select components from Consumer Choice Theory and the Medication Adherence Model. The performance of this proposed model against the enhanced HBM was tested to determine if Medicare elders' antihypertensive acquisition behaviors can be predicted using the developed new model. The influence of multiple factors were examined to determine which, if any, of the variables may be used to predict acquisition behaviors for Medicare elders under various model conditions.

This study examined the linkage between individual perceptions and beliefs about hypertension, including self-efficacy of acquiring antihypertensives, to try to understand what decision-making processes Medicare elders engage in when deciding to acquire antihypertensives. Ultimately, this study attempted to determine whether the enhanced HBM or the proposed PAMME were useful frameworks for examining elderly Medicare elders' antihypertensive acquisition decisions and behaviors.

PAMME Constructs

The proposed PAMME examines various components of consumer decision making (Friedman, 1990) that have been found to effect antihypertensive acquisitions for

Medicare elderly (perceived health status, price of individual prescription drug, Part D plan premiums, Extra Help status, perceived antihypertensive side effects, perceived effectiveness of antihypertensives, beliefs about antihypertensive safety, and benefits of acquiring antihypertensives among others).

Demographic Factors

Demographic factors include age, gender, marital status, income, and ethnicity. Treatment, adherence, and disease control may vary by ethnicity, age, and marital status (Bardel, Wallander, & Svardsudd, 2007).

Age may influence antihypertensive acquisitions as hypertension becomes more prevalent as the population ages (American Heart Association, 2007b). *Gender* may influence antihypertensive acquisitions as approximately one-fourth of Medicare-aged men and women have been diagnosed with hypertension (Centers for Disease Control and Prevention, 2007b). *Marital status* might influence whether Medicare elders acquire their antihypertensives. Married couples may be concerned for each other's health and remind each other to acquire and take their antihypertensives as prescribed (Davis & Srivastava, 2003). *Income* level may have an influence on treatment affordability and antihypertensive acquisitions as lower-income Medicare elders may have more difficulty acquiring their prescribed antihypertensives and other prescription drugs (Blustein, 2000; Bowman, 2007; Federman et al., 2006). *Ethnicity* influences acquisition of health care and prescription drugs for African-American Medicare elders who are not equally able to acquire their prescription drugs (Center for Studying Health System Change, 2003).

Individual Perceptions

Individual perceptions include self-efficacy, perceived threat of disease, perceived susceptibility/seriousness of illness, perceived barriers versus benefits of acquiring antihypertensives, perceived benefit versus cost of prescription plan and antihypertensives cost as well as perceived need, effectiveness and safety of antihypertensives.

Self-efficacy is the perception or belief that an individual has about his or her ability to complete a desired task (Antonacci, 2002). Sell-efficacy with respect to acquiring antihypertensives includes an individual's belief in his or her ability and the desire to overcome the barriers to acquiring antihypertensives as prescribed by a physician.

Willingness to pay is the value perception that an individual places upon items (includes health) and the price he or she is willing to pay. Often, with the Medicare Part D premiums and co-pays, willingness to pay may be influenced by the range of premiums, the number of prescription drugs taken, and the individual's perceptions about the cost benefit trade-offs of coverage for one plan when compared to another (e.g., Advantage plan with zero premium versus a stand-alone drug plan with a $14.40 monthly premium).

Perceived health status is an individual's perception of his or her health, which may differ from his or her health care provider's perception related to the clinical diagnosis. *Perceived threat of disease* includes how real a threat a Medicare elder perceives hypertension to be for him or her. If Medicare elders have been diagnosed with pre-hypertension or hypertension, then they may perceive the threat as greater than that perceived by elders not diagnosed (Pinto, 2007).

Perceived susceptibility/seriousness of illness may be affected by a lack of symptoms or signals from the body that something is wrong, which may, in turn,

incorrectly influence an individual's perceptions about his or her chances of having hypertension or his or her perceptions about the severity of disease state and the need for treatment (Balkrishnan, 1998; Leeser, 1989). Asymptomatic hypertensive Medicare elders may delay obtaining medical care or treatment if they perceive that they are not susceptible to hypertension or that hypertension is a mild disease that has little adverse health effects (Leeser, 1989).

Perceived barriers versus benefits of acquiring antihypertensives may be influenced by distance to the pharmacy, availability of transportation, or the adverse consequence of not obtaining the prescribed antihypertensives (Balkrishnan, 1998; Cooper, Love, & Raffoul, 1982). The desire to acquire antihypertensives must be strong enough to overcome the barriers of cost, beliefs about health status, hypertension beliefs, and attitudes about prescription drugs as well as other perceived barriers.

Perceived need, effectiveness, and safety of antihypertensives may have an influence on antihypertensive acquisitions. Examining Medicare elders' beliefs about a prescription drug's effectiveness (McDonald-Miszczak, Maris, Fitzgibbon, & Ritchie, 2004) and beliefs about the severity of their illness or effectiveness of prescription drugs designed to prevent illness or treat chronic diseases are important in determining to what extent these perceptions influence their acquisition behaviors (Horne & Weinman, 1999; Okonofua, Cutler, Lackland, & Egan, 2005). Adherence also may be influenced by perceived need, effectiveness, and safety, which could affect whether an individual perceives antihypertensives as essential for the treatment of hypertension or chronic illness (Balkrishnan, 1998; Cooper, Love, & Raffoul, 1982; Lehan & McCarthy, 2006).

Modifying Factors

Modifying Factors include knowledge of their condition, cognitive ability, social support, and cues to action (symptoms, side effects, information, and media events). *Knowledge* about hypertension and methods to improve disease control may have an influence on Medicare elders' antihypertensive acquisition by understanding what is required to prevent adverse health outcomes (Esposito, 1992; Hsu et al., 2008).

Cognitive ability is influenced by both the aging process and hypertensive treatment (Terrera, Matthews, & Brayne, 2008; Wang, Alexander, & Stafford, 2007). Antihypertensive acquisition may possibly be influenced by cognitive impairment for hypertensive Medicare elders for whom additional screening and treatment may be required (van Uffelen, Chin, Hopman-Rock, & van Mechelen, 2007). Cognitive ability may be affected by stroke or the development of dementia (McGuinness, Todd, Passmore, & Bullock, 2006; Yaan, Fischer, Gamat, Bagwell, & Thai, 2006).

Social Support could influence antihypertensive acquisitions if friends, family, and health care providers are actively involved monitoring the health-seeking behaviors of parents, neighbors, or patients (Centers for Medicare and Medicaid Services, 2006). Additionally, physicians and pharmacists taking an active interest in their patients' treatment and acquisition abilities may have an influence on treatment adherence (Mojatabai, 2005).

Cues to Action may include symptoms, side effects, information, and media events. *Symptoms* may not be recognized by Medicare elders as related to an illness, but may be erroneously attributed to non-threatening conditions such as the aging process (Ryan & Zerwic, 2003). *Side effects* of antihypertensives may influence Medicare elders' willingness

to acquire them as prescribed (Benson & Britten, 2002). If side effects are more unpleasant then the benefits derived from specific antihypertensives, Medicare elders may choose not to acquire their prescriptions (Benson & Britten, 2002). *Information* about hypertension may allow Medicare elders to choose dietary methods for hypertension prevention and treatment (Appel et al., 2006). Learning about preventing adverse cardiovascular events (Andrawes, Bussy, & Belmin, 2006) may influence antihypertensive acquisitions and provide information for making informed choices (Benson & Britten, 2002). *Media events* may have an influence on antihypertensive acquisitions as direct marketing to Medicare elders may induce them to visit their physician to discuss treatment options (Datti & Carter, 2006).

Access Behavioral Methods

Access Behavioral Methods includes acquisition of antihypertensives by legal methods, by other than purchase, and not acquired. *Acquisition of antihypertensives by legal methods* may be influenced or dependent upon perceptions of affordability. Dual Eligible (Medicare elders with both Medicare and Medicaid) with PDPs may perceive that they are able to acquire affordable antihypertensives (Elam, 2006). Medicare elders who are able to afford prescribed drugs may be able to take dosage amounts as prescribed (Gottlieb, 2000). Increases in adherence through improved access may improve an individual's quality of life through better disease control (Meyer, 2002).

Acquisition of antihypertensives other than purchase may include free samples from the doctor's office (Montemayer, 2002). Additionally, the availability of non-prescription drug alternatives may influence antihypertensive acquisitions (Balkrishnan, 1998). *Not acquired by any method* is an option for Medicare elders who either do not

believe that antihypertensives are necessary to treat their hypertension (Horne & Weinman, 1999) or are unable to afford their antihypertensives despite having a prescription drug plan (Blustein, 2002; Bowman, 2007).

Outcome

Outcome includes (a) acquired prescribed supply of antihypertensives by legal methods, (b) did not acquire prescribed supply of antihypertensives, and (c) did not acquire any antihypertensives. *Acquired prescribed supply of antihypertensives by legal methods* includes purchase through pharmacy or by mail order utilizing the Medicare Part D plans or obtaining samples in prescribed amounts from doctors' offices or clinics. *Did not acquire prescribed supply of antihypertensives* includes any non-legal method, which may include sharing, skipping, or utilizing reimportation from non-U.S. countries. *Did not acquire any antihypertensives* includes use of herbal treatment remedies or not acquiring any of the prescribed treatments by a health care professional.

Empirical Support for the Proposed Pharmaceutical Acquisition Model for Medicare Elders (PAMME)

This study tested the proposed Pharmaceutical Acquisition Model for Medicare Elders (PAMME) against the enhanced Health Belief Model (HBM), thereby providing an initial assessment of the proposed PAMME's usefulness predicting antihypertensive acquisition behaviors. Testing the proposed model against the time-tested enhanced HBM was expected to provide information previously lacking for Medicare elders' antihypertensive acquisition behaviors.

Chapter 3

METHOD

Overview

The purpose of this study was to test the usefulness of the proposed Pharmaceutical Acquisition Model for Medicare Elders (PAMME). This model expanded upon the constructs from the enhanced Health Belief Model (HBM) (Janz & Becker, 1984), Consumer Choice Theory (Friedman, 1990), and the Medication Adherence Model (Johnson, 2002) with respect to decision making for antihypertensive acquisitions. The various components of the PAMME were tested to determine which factors, if any, exert influence upon decision making for antihypertensive acquisitions. The performance of the proposed PAMME was compared to that of the enhanced HBM to determine if it a better predictor of antihypertensive acquisition behavior by Medicare elders.

This study employed a quasi-experimental, retrospective, mixed-methods design. A combination of primary and secondary data was used to examine the various factors that may influence antihypertensive acquisitions. The population of interest in this study was low-income, Medicare elders in southeastern Virginia (see Appendix I). *Low-income* was assessed at 150% of the poverty level (Centers for Medicare and Medicaid Services, 2005a). *A Medicare elder* is a beneficiary who has attained at least 65 years of age (Centers for Medicare and Medicaid Services, 2006). Antihypertensive Acquisition (Yes/ No) was assessed based upon whether Medicare elders legally obtained the prescribed amounts of antihypertensives with the intention of taking them as directed by their physician.

Human Subjects Review

This study complied with all Human Subjects Review guidelines and was approved by the Institutional Review Board (IRB) prior to the beginning of data collection. Copies of the sample consent letters are included in Appendix V.

Target Population

The target population of this study was Medicare elders who were prescribed at least one antihypertensive and who were assisted by Senior Services of Southeastern Virginia (SSSEVA) to enroll in the Medicare prescription drug discount or Advantage plans. Medicare elders were screened for Extra Help (i.e., Low Income Subsidy or LIS). SSSEVA is the local Agency on Aging (AoA), the Virginia Insurance Counseling Assistance Program (VICAP), and the local State Health Insurance Program (SHIP) for southeastern Virginia.

Sample Size Selection

Sample size calculations were made using the formula (see Appendix II) for statistical power and optimal sample size to obtain a power of *alpha* = .05. It was necessary to select an appropriate sample size sufficient to identify a meaningful difference between elderly Medicare elders who acquire prescription drugs as prescribed and those who do not. The formula was used to calculate the correct sample size for the power selected: too much power (or too large a sample) might decrease the ability to identify appropriate statistical significance (Creative Research Systems, 2003; Israel, 2003; Sigma Six, 2007). Conversely, too small a sample had the potential to identify incorrectly a difference that might exist (Creative Research Systems, 2003; Israel, 2003; Sigma Six, 2007).

Approximately 1,179 Medicare elders (65+ years of age) could be contacted using complete contact data. Of the Medicare PDP enrollees, 96 had applied for the Extra Help program (i.e., Low Income Subsidy or LIS). Closer examination of the database records revealed that not all 1,179 were eligible to be contacted. A portion of this sample was taking prescription drugs for the treatment of mental health (e.g., dementia, Alzheimer's, among others) or was lost to follow-up (e.g., moved, in a nursing home, living with relatives). These Medicare elders were excluded from the research study for obvious reasons. A total of 868 Medicare elders were eligible to participate. They were sent invitations with study materials and consent forms. All research materials were mailed to Medicare elders with self-addressed and postage-paid return envelopes to facilitate return mailing.

Not all of the invited Medicare elders consented to participate. Additional invitation letters were sent to those who had not been contacted during the first mailing. Initially, 670 Medicare elders were contacted for interviews. A second, then a third mailing, was sent to those Medicare elders who had not previously been invited. The revised calculations for statistical power indicated that a sample size of 67 completed surveys was necessary for an *alpha* of .05 significance. The number of Medicare elders consenting was 81; however, not all were able to complete the survey for reasons explained in Chapter 5.

Medication Education Database Information

The information collected in the Medication Education Database (see Table 4 in Chapter 1) contains information about the clients who were assisted by SSSEVA with insurance and health care needs. The Medication Education Access database contains 44 fields of information collected for health insurance contacts. This database has been

continuously maintained and updated for the past five years (October 2004 to the present) and originated with the Medicare Modernization Act of 2003 implementation efforts. The portions of the database that are relevant to Medicare Part D and this study are Last Contact Date, Type of Contact, Age, Ethnicity, Marital Status, Home City, Emergency Contact Type, Extra Help-related, Hypertensive Status, Health Status, Insurance Status, Part D-related and New to Medicare. The other information, while not directly related, might be useful if the referral was from either a doctor (or other health professional) or an elder's pharmacist.

Hypertensive Status was indicated separately from Health Status to identify elders who were prescribed at least one antihypertensive. Health Status differs from Hypertensive Status as it identifies Disability Status as well as hospitalizations and any other chronic illness(es). Insurance Status is used to identify whether a contact has Creditable Coverage or is Enrolled in Part D or a Medigap supplement with prescription drugs.

Participant Selection Criteria

Inclusion Criteria

Participants were selected from consenting Medicare elders assisted by Senior Services of Southeastern Virginia (2006, 2007, 2008) for MMA enrollment and LIS screening for whom complete contact information (name, age, address, and telephone) was available. Age as of last birthday was used in place of birth date. Identification of age was necessary, as only those at least 65 years of age were included in this study. An elder's eligibility for Medicare was based upon being 65 years of age versus elders who were medically diagnosed with a disability and meeting the 24-month waiting period (Centers for Medicare and Medicaid Services, 2005a). All income levels were included in this study;

however, the focus was upon low-income elders since they were identified previously as having acquisition problems for prescription drugs (Elam, 2006; Klein, Turvey, & Wallace, 2004). Low income was defined as 150% of poverty level income. Those elders not classified as having a low income were above the poverty level and were screened not eligible for Extra Help (Centers for Medicare and Medicaid Services, 2005b).

Additionally, Medicare Modernization Act enrollees' records were screened for the prescription drug discount plan status enrollment (PDP or Advantage) and Extra Help status (application and approval). The inclusion of those enrolled during the full implementation of the MMA's prescription drug discount card program provided historical data for those continuously enrolled.

Exclusion Criteria

Medicare elders with creditable coverage (employer- or military-based insurance that is equivalent or better than Medicare) who are not required to participate in MMA were excluded. Database records of Medicare elders with incomplete or missing demographic or contact data were excluded from this study. In addition, Medicare elders were excluded from this study if they were unable to speak or understand English because the survey instrument was not available in other languages. Medicare elders who were not able to use a telephone or who were not mentally capable and/or unable to make their own decisions related to their health or health options were excluded (i.e., those elders whose files included a Power of Attorney to a caregiver). The administered survey instrument included questions from the Short Portable Mental Status Questionnaire (SPMSQ). Medicare elders who were unable to respond successfully to the initial four questions (i.e., if they failed the mental portion of the questionnaire) also were excluded from this study.

Data Collection

Data collection included information from primary (administered surveys) and secondary data sources (Senior Services of Southeastern Virginia [SSSEVA] enrollment databases). Data collection forms and surveys were randomly assigned numbers to facilitate data entry into SPSS (Version 16.0 for Windows). Approval by the Chief Executive Officer and the Board of Directors of SSSEVA was granted to access the necessary Medicare enrollee databases and to contact those clients required to conduct this study (see Appendix VI).

Screening and Data Collection Instruments

A combination of quantitative and qualitative information was collected using three types of data-screening and collection instruments. The first was the master screening document that was used to compile the master record of hypertensive Medicare elders, including demographic data such as name, age, address, and telephone number. The second was the screening of plan enrollment and Extra Help, which recorded hypertension status and Extra Help status of Medicare elders. Lastly, the administered survey log was used to contact selected Medicare elders for the study.

Screening and Random Sample Data Collection Instruments

A records review was conducted to identify current enrollment information such as Medicare Part D enrollment status, Extra Help status, demographic information, antihypertensive usage, and any notable acquisition experiences. The framework for the collection of data from the master dataset included an assessment tool that allowed data matching with individual enrollment and application records collected from 2006 to present.

Identification of Medicare elders with hypertension who were prescribed at least one antihypertensive (see Table 5 and Table 6) was necessary so that invitations were sent only to those individuals meeting the inclusion criteria for the target population.

Table 5

Master Screening to Collect Demographic Information

Database Number	Random Number Assigned	Name	Phone	Age (65+)	Gender	Ethnicity	HBP
		Last, First	(757) XXX-XXXX		M/F	White Black Asian Hispanic Other	YES/NO

Data screening of Medicare elders' hypertension status and their prescription drug plan and Extra Help status was conducted. This screening instrument (see Table 6) includes age (65+) and hypertension (HBP) with at least one blood pressure medicine prescribed. Additionally, the Medicare elders selected were those who had been assisted with Part D enrollment and Extra Help application. The data-screening instrument for hypertension and insurance status was used to select those Medicare elders from a secondary dataset who had been prescribed at least one antihypertensive and were assisted with enrollment into a Medicare Part D or Advantage plan for FY 2006, FY 2007, and/or FY 2008. All screening documents were securely maintained (i.e., password and key

protected) in a locked room within a locked filing cabinet. Additionally, Table 7 was used to match Extra Help and Part D for FY2006, FY2007, and FY2008.

Table 6

Data Screening for Hypertension and Insurance Status

Number	Name	Phone	Age (65+)	HBP	HBP RX	MMA Status	EH Status
Random	Last, First	(757) XXX-XXXX		YES/NO	YES/NO	YES/NO	YES/NO

Table 7

Survey Data Collection: Part D and Extra Help Status

Number	Name	2006		2007		2008	
Random Number Assigned	Last, First	Extra Help Approved	PDP or ADV	Extra Help	PDP or ADV	Extra Help	PDP or ADV

The Data Collection List for Consent Results (see Table 8) includes the random numbers assigned to the Medicare elders selected randomly from the Preliminary Data Screening Master List. The random numbers and contact information were used to send the invitation to participate in the research study. The Survey Data Collection List for Consenting Responses recorded the responses from Medicare elders who consented to

participate in administered interviews. Medicare elders had two methods for consent: signing and returning the invitation letter or verbal consent via the telephone.

Table 8

Survey Data Collection: Consent Response

Number	Name	Phone	Address	Age	Mailed Date		Consent	
Random Number Assigned	Last, First	(xxx) xxx-xxxx	City, ST Zip	>65	Date	Time	Yes	No

Table 9 includes the random numbers of consenting Medicare elders. The administered survey instruments utilized to contact Medicare elders contained only the random number assigned, name, and administered number. Three attempts were made to contact Medicare elders from those randomly selected from among the Medicare elders agreeing to participate.

Table 9

Survey Data Collection: Medicare Elders' Administered Interview Results

Number	Name	Phone	Attempt 1		Attempt 2		Attempt 3		Complete	
Random Number	Last, First	(xxx) xxx-xxxx	Date	Time	Date	Time	Date	Time	Yes	No

Data Collection: Medicare Elders' Administered Interview Results

The survey instrument was a modified version of the Henry J. Kaiser Family Foundation's *Medicare Elders Experiences with Part D,* a nationally administered survey that obtained good results for Medicare beneficiaries. Approval was granted via e-mail and administered from the Henry J. Kaiser Family Foundation to use select portions of the *Seniors' Early Experiences with Their New Drug Plan – June 2006* survey with the provision that a copy of the results would be forwarded to the Foundation upon completion of this study. The survey instrument comprised the Medicare section of the survey (Henry J. Kaiser Family Foundation, 2006b). Initial questions from the administered survey were taken from the *Short Portable Mental Status Questionnaire* (SPMSQ) to screen for mental deficiencies that would prevent Medicare elders from effectively completing the survey. Additionally, the survey contained *Questions to Identify Patients Experiencing Medication Cost Problems* (California Healthcare Foundation, 2005); Medication Adherence – Morisky Scale (Vik et al., 2005) as well as the SSSEVA's Access & Acquisition of Prescription Drugs Survey (Senior Services of Southeastern Virginia, 2005). The modifications include additional questions relating to adherence (Morisky Scale) and acquisition decisions relating to affordability and adherence (*Questions to Identify Patients Experiencing Medication Cost Problems*). Overall, the survey questions were designed to elicit responses that might improve our understanding of prescription drug discount plan enrollment and usage experiences, as well as identify affordability or health beliefs related to antihypertensive acquisition with usage intentions.

Seniors' Early Experiences with Their New Drug Plan – June 2006

The Henry J. Kaiser Family Foundation (2006b) was instrumental in conducting research to determine if the new MMA's implementation was beneficial for Medicare elders. The survey was administered nationwide to Medicare beneficiaries. The survey instrument has a demonstrated reliability of .927 for gathering Medicare beneficiaries' prescription drug plan experiences.

The Short Portable Mental Status Questionnaire

The Short Portable Mental Status Questionnaire has been used successfully (.738) with aging populations to measure cognitive impairment and to detect early stages of dementia (Eissa, Andrew, & Baker, 2003).

Morisky Scale

The Morisky Scale was developed to assess prescription drug adherence and has been used successfully for chronic disease medication-taking behaviors (Vik et al., 2005). The Morisky Scale has been used previously with hypertensive elders (Val, Amoros, Martinez, Fernandez, & Leon, 1992) and has a demonstrated reliability of .640 when used with elders who are similar to the target population of this study (Val et al., 1992; Vik et al., 2005).

California Medication Affordability Survey

The *California Medication Affordability Survey* has been used to determine how affordability influences medication acquisition. This survey instrument has been utilized successfully (.744) with populations with chronic illness and disease, including Medicare elders (California Healthcare Foundation, 2006).

SSSEVA: Access & Acquisition of Prescription Drugs Survey

The SSSEVA: Access & Acquisition of Prescription Drugs Survey has been useful (.854) in determining how the MMA affected prescription drug access and acquisition (SSSEVA, 2006). Table 10 summarized the reliability coefficients for each of the surveys and scales used in this research.

Table 10

Summary of Reliability Coefficients

Survey Instruments	Reliability Coefficients
Senior's Early Experiences with Their New Drug Plan – June 2006	.927
Short Portable Mental Status Questionnaire (SPMSQ)	.738
Morisky Scale	.640
California Medication Affordability Survey	.744
The Senior Services of Southeastern Virginia (SSSEVA) Access and Acquisition of Prescription Drugs Survey	.854

Survey Administration

The survey was administered by trained interviewers (approximately 25 to 30 minutes in-person and approximately 45 minutes by telephone). The instrument included research variables (see Table 11) and questions about experiences with prescription drug plan enrollment, Extra Help approval status, demographics, health status, prescription drug insurance status, and antihypertensive acquisitions (including affordability and usage

Table 11

Research Variables Linked to Model Constructs

Variables	Label	Measurement	Data Source	Instrument	Model Components
Outcome Variable	Acquire Antihypertensive (Yes/No)	Nominal	Individual Survey	Administered Survey	Likelihood of Action: Likelihood of Behavioral Change
Independent Variables					
Demographic/ Socioeconomic					
Age	Age on Last Birthday	Ratio	Access Database/ Individual Survey	Data Collection Form/ Administered Survey	Demographics Age
Gender	Male Female	Nominal	Access Database	Data Collection Form	Demographics Gender
Marital Status	Married Separated Divorced Widowed Single	Nominal	Access Database/ Individual Survey	Data Collection Form/ Administered Survey	Demographics Marital Status
Ethnicity	Caucasian African-American Asian Hispanic Other	Nominal	Access Database/ Individual Survey	Data Collection Form	Demographics Ethnicity
Gross Monthly Income	Self-Reported Amount	Ratio	Access Database/ Individual Survey	Data Collection Form/ Administered Survey	Demographics Income
Annual Income	Gross Monthly Income x 12 mos.	Ratio	Access Database/ Individual Survey	Data Collection Form/ Administered Survey	Demographics Income

Table 11 (continued)

Variables	Label	Measurement	Data Source	Instrument	Model Components
Education Level	Highest Level Completed	Ordinal	Self-Reported	Administered Survey	Demographics Education
Self-Efficacy	Very Confident-Not Confident	Ordinal	Self-Reported	Administered Survey	Individual Perceptions: Self-Efficacy
Medication Taking					
# Antihypertensive Prescribed	# Antihypertensive Prescribed by Doctor	Ratio	Self-Reported	Administered Survey	Individual Perceptions: Perceived Severity
Decision of # Antihypertensives to Take	# Antihypertensive Taken	Ratio	Self-Reported	Administered Survey	Likelihood of Taking Action
Decision of # Antihypertensive Not Taken	# Antihypertensive Not Taken	Ratio	Self-Reported	Administered Survey	Individual Perceptions: Barriers
Decision to acquire Antihypertensive (which per month)	Name Antihypertensive Acquired	Nominal	Self-Reported	Administered Survey	Likelihood of Taking Action
Decision to obtain Antihypertensive other than acquisition	# Antihypertensives Obtained By Other than Acquisition	Ratio	Self-Reported	Administered Survey	Likelihood of Taking Action
Perceived Health Status	Diseases taking Rx to treat or Prevent	Nominal	Self-Reported	Administered Survey	Individual Perceptions: Perceived Health
Perceived Need for Antihypertensive	Hypertension: Serious/Not Serious	Scale	Self-Reported	Administered Survey	Individual Perceptions: Cost vs. Benefit
Perceived Barriers for Antihypertensive	Easily Acquire/Not Easily Acquire Antihypertensives	Scale	Self-Reported	Administered Survey	Individual Perceptions: Barriers

Table 11 (continued)

Variables	Label	Measurement	Data Source	Instrument	Model Components
Perceived Effectiveness of Antihypertensive	Believe Antihypertensive helps prevent/ control disease (Yes/No)	Nominal	Self-Reported	Administered Survey	Individual Perceptions: Perceived Effectiveness
Prescription Drug Acquisition Behaviors					
What other methods used	Sharing Skipping Free Samples Non Rx Alternatives Other	Nominal	Self-Reported	Administered Survey	Likelihood of Action: Acquisition other than Purchase
Plan Experiences					
Part D Status	Enrolled (Yes/No)	Nominal	Database & Self-Reported	Data Collection Form/ Administered Survey	Likelihood of Action: Part D Enrolled
Part D Usage	Used to Acquire Rx (Yes/No)	Nominal	Self-Reported	Administered Survey/Plan Quarterly Report	Likelihood of Action: Rx Acquisition
Extra Help Applied Status	Applied (Yes/No)	Nominal	Database & Self-Reported	Data Collection Form/Phone Survey	Likelihood of Action: Extra Help Applied
Extra Help Approved Status	Approved (Yes/No)	Nominal	Database & Self-Reported	Data Collection Form/Phone Survey	Likelihood of Action: Extra Help Approved
Prescription Drug Enrollment Confusion	Confusion Enrolling in Part D: Not Confusing/ Very Confusing	Scale	Self-Reported	Administered Survey	Individual Perceptions: Barriers

Table 11 (continued)

Variables	Label	Measurement	Data Source	Instrument	Model Components
Part D Monthly Premiums	Monthly Premiums Affordable/Not Affordable	Scale	Self-Reported	Administered Survey	Individual Perceptions: Cost vs. Benefit
Part D Co-Pays	Co-Pays Affordable/Not Affordable	Scale	Self-Reported	Administered Survey	Individual Perceptions: Cost vs. Benefit
Prescription Drug Acquisition Problems	Difficulty Using Part D to Acquire Rx: No Difficulty/ Very Much Difficulty	Scale	Self-Reported	Administered Survey	Individual Perceptions: Barriers

intentions). The survey used existing valid and reliable survey instruments to address the hypotheses and research questions posed by this study.

Seven-day pillboxes were given to those consenting Medicare elders who participated and completed the survey. Medicare elders who consented but were unable to participate also received the seven-day pillboxes.

The administered survey items are linked with the variables for the enhanced Health Belief Model (see Table 12) and the proposed Pharmaceutical Acquisition Model for Medicare Elders (see Table 13).

Table 14 maps the administered survey (including question source) to the PAMME. The questions reflect the addition of the Consumer Choice Theory and the Medication Adherence Model to the enhanced HBM. The inclusion of these additional questions enabled the researcher to compare the two models to determine if increased predictability

Table 12

Administered Survey Items Matched to the Model Variables for the Enhanced Health Belief Model (HBM)

Type of Variable	Survey Item #	Measurement Level
Dependent Variable(s)		
Outcome		
Acquired prescribed supply of antihypertensive(s)	33	Nominal
Did not acquire prescribed supply of antihypertensive(s)	34	Nominal
Did not acquire any antihypertensive(s)	9B, 35	Nominal
Access Behavioral Method		
Acquire antihypertensive(s) from pharmacy	32A, 32D	Nominal
Acquire hypertensive(s) other than purchase	32E	Nominal
Not acquired by any method	9B, 38B, 38C	Nominal
Independent Variable(s)		
Demographic and Socioeconomic		
Age	SPMSQ3	Ratio
Gender	D1	Nominal
Ethnicity	D2	Nominal
Marital status	D3	Nominal
Monthly gross income	D4	Ratio
Annual income	D5	Ordinal
Educational level	D6	Ordinal
Antihypertensives Self-Efficacy		
Feel confident to acquire blood pressure Rx as prescribed	5	Nominal
Perceived Barriers: Antihypertensive Acquisition		
Medicare plan and acquiring Rx	9A-9H	Nominal
	17	Ordinal
	18	Ratio

Table 12 (continued)

Type of Variable	Survey Item #	Measurement Level
Difficulties with Plan	38A-38G	Nominal
Problems?	44	Nominal
Perception of policy?	52	Nominal
Taking Antihypertensives?	22	Ratio
Perceived Benefits: Antihypertensive Acquisition		
Antihypertensive regular usage status	33, 34	Nominal
# Antihypertensives prescribed?	22	Ratio
# Antihypertensives taken?	31A	Ratio
Antihypertensives taken: Name	31B	Nominal
Antihypertensive-taking behavior	30	Nominal
Perceived health status	16	Nominal
Perceived need for antihypertensives	13, 14	Nominal
Perceived effectiveness of antihypertensives	12	Nominal
Perceived safety of antihypertensives	15	Nominal
Modifying Factors		
Knowledge	23	Nominal
Social support	24A-24J	Nominal
Doctor	25	Nominal
Cues to Action – Symptoms	26C, 26D	Ordinal
Cues to Action – Side Effects	27A-27J	Ordinal
Cues to Action – Information	28A-28E	Nominal
Cues to Action – Media Events	29A-29E	Nominal

Table 13

Model Variables Matched to the Pharmaceutical Acquisition Model for Medicare Elders (PAMME)

Type of Variable	Survey Item #	Measurement Level
Dependent Variable(s)		
Prescription Drug Acquisition	33	Nominal
Acquired Antihypertensive with plan?	32A-32B	Nominal
Decision to Acquire Antihypertensives – Doctor	24I, 25	Nominal
Decision to Acquire Antihypertensives – Pharmacist	24J	Nominal
How Many Antihypertensives Acquire Regularly?	33	Ratio
Decision to obtain - other than purchase	32E	Ordinal
Independent Variable(s)		
Demographic & Socioeconomic		
Age	SPSMQ 3	Ratio
Gender	D1	Nominal
Marital Status	D2	Nominal
Ethnicity	D3	Nominal
Monthly Gross Income	D4	Ratio
Annual Income	D5	Ratio
Education Level	D6	Ordinal
Cognitive Ability		
What are the date, month, and year?	SPMSQ 1	Nominal
What is the day of the week?	SPMSQ 2	Nominal
How old are you?	SPMSQ 3	Ratio
When were you born?	SPMSQ 4	Nominal
Plan Experiences		
Impression of Benefit	39	Nominal
Knowledge of Late Enrollment Penalty?	46	Nominal

Table 13 (continued)

Type of Variable	Survey Item #	Measurement Level
Extra Help Benefit?	37	Nominal
Difficulty of Enrollment	42	Ordinal
Choosing a Plan – Importance	44, 45	Nominal
Decisions About Choosing Plan	46, 47	Nominal
Plan Experience – Better/Worse	48A-48D	Nominal
Type of Medicare Plan	36	Nominal
Plan Choice Satisfaction	39	Ordinal
Plan Acquisition w/ Plan?	34, 35	Ordinal
Difficulties getting card?	38A	Nominal
Rx not covered by plan	38D	Nominal
Billing Mistake by plan	38F	Nominal
Switching plan	47	Nominal
Coverage gap? (write in comments)	—	Nominal
Message to policy makers	52	Nominal
Self-Efficacy		
Confidence in ability to acquire	5	Nominal
Affordability		
Saving Money w/ Plan?	49	Nominal
Saving a lot/a little?	50	Nominal
Paying a lot /a little"	51	Nominal
Help paying for Rx	20A	Nominal
Find assistance to pay for Rx	20E	Nominal
Ask whether could afford Rx	20C	Nominal
Where to get less expensive	20D	Nominal

Table 13 (continued)

Type of Variable	Survey Item #	Measurement Level
Willingness to Pay		
Pay for better health?	17	Ordinal
Pay for Rx drug plan?	18	Ratio
Pay for Antihypertensive Rx	19	Ratio
Health Status		
Perceived Health Status	16	Nominal
Hypertensive Status		
When Diagnosed with HBP?	31	Nominal
Health-Care Decisions		
Social Support	24A-24J	Nominal
Doctor Assistance	25	Nominal
Antihypertensives		
Number of Antihypertensives prescribed	35	Ratio
Decision of Number Antihypertensives Taken	37	Ratio
Antihypertensives Actually Take by Name	38	Nominal
Switched Rx Effective	47	Ordinal
Perceived Need for Antihypertensives	33	Nominal
Perceived Safety of Antihypertensives	32	Nominal
Antihypertensive Usage Status	34	Nominal
Perceived Barriers to Antihypertensive Acquisitions	22, 41, 46	Nominal
Rx not covered by plan	20D	Nominal
Couldn't afford	20C, 20E	Nominal
Transportation problems	46	Nominal
Problems Acquiring	20B	Nominal
Not filled Rx or Skipped	26C	Nominal

Table 14

Pharmaceutical Acquisition Model for Medicare Elders (PAMME) Mapped to Administered Survey and Survey Question Sources

	Survey Question Number(s)	Survey Question(s) Source	Relating to the Model
Demographic Factors			
Gender	D1	2006 SE D1	Independent Variable
Marital Status	D2	2006 SE D3	Independent Variable
Ethnicity	D3	2006 SE D4	Independent Variable
Income	D4	2006 SE D5	Independent Variable
	D5	2006 SE D6	Independent Variable
Education	D6	2006 SE D7	Independent Variable
Cognitive Ability			
Date, Month, Year	1	SPMSQ 1	Independent Variable
Day of Week	2	SPMSQ 2	Independent Variable
How old	3	SPMSQ 5	Independent Variable
When born	4	SPMSQ 6	Independent Variable
Individual Perceptions			
Self-Efficacy	5	Catz, Kelly, Bogart, Benotsch, & McAuliffe (2000)	Independent Variable
Health Status	16	2006 SE 39	Independent Variable
Willingness to Pay	17	Donaldson, Thomas, & Torgerson (1997)	Independent Variable
	18		Independent Variable
	19		Independent Variable
Perceived threat of hypertension	7	Gohar, Greenfield, Beevers, Lip, & Jolly (2008)	Independent Variable
Perceived susceptibility/ seriousness of hypertension	6	Gohar, Greenfield, Beevers, Lip, & Jolly (2008)	Independent Variable
	8		Independent Variable
	36		Independent Variable
	26A	Morisky	Independent Variable
Perceived barriers vs. perceived benefits of acquiring antihypertensives	11		
	7	2006 SE 8	Independent Variable
	8	2006 SE 10	Independent Variable
	9	2006 SE 11	Independent Variable
	9A	2006 SE 12	Independent Variable

Table 14 (continued)

	Survey Question Number(s)	Survey Question(s) Source	Relating to the Model
	9B	2006 SE 12	Independent Variable
	9C	2006 SE 12	Independent Variable
	9D	2006 SE 12	Independent Variable
	12		Independent Variable
Perceived need,	13		Independent Variable
effectiveness, and safety	14		Independent Variable
of antihypertensives	33		Independent Variable
	34		Independent Variable
	37		Independent Variable
	38		Independent Variable
Modifying Factors			
Knowledge	23	2006 SE 9	Independent Variable
Social Support	24A - 24J		Independent Variables
Doctor Assistance	25	SSSEVA	Independent Variable
Cues to Action: Symptoms	26C-26D		Independent Variable
Cues to Action: Side Effects	27A-27J		Independent Variable
Cues to Action: Information	28A-28J		Independent Variable
Cues to Action: Media Events	29A-29F		Independent Variable
Access Behavioral Method			
Acquire antihypertensive(s) from pharmacy	32A, 32D		Dependent Variable
Acquire anti-hypertensive(s) other than purchase	32E		Dependent Variable
Not acquire by any method	38B, 38C		Dependent Variable
Dependent Variable			
Outcome			
Acquired prescribed supply of antihypertensive(s)	33		Dependent Variable
Did not acquire prescribed supply of antihypertensive(s)	34		Dependent Variable
Did not acquire any antihypertensive(s)	35		Dependent Variable

was possible given the added constructs. The inclusion of the cognitive ability questions allowed for exclusion of any consenting Medicare elders who were not mentally competent to answer the survey questions. The only demographic variable that was included in the cognitive ability portion was age. Age was not asked any other place in the survey instrument and was readily verifiable with database records.

Research Hypotheses

Ho1: Medicare elders do not legally acquire 100% of prescribed antihypertensive.

Ha1: Medicare elders legally acquire at least 70% of their prescribed antihypertensives.

Ho2: The enhanced Health Belief Model overall does not explain Medicare elders' antihypertensive behaviors.

Ha2: The enhanced Health Belief Model overall explains less than 60% of antihypertensive behaviors for antihypertensive Medicare elders.

- Ho2a: Individual perceptions for disease severity have no influence on Medicare elders' decision to acquire antihypertensives.
- Ha2a: Medicare elders who perceive their hypertension as serious may be more likely to acquire their antihypertensives.
- Ho2b: Perceived benefits of antihypertensives have no influence on Medicare elders' decision to acquire antihypertensives.
- Ha2b: Medicare elders who perceive the benefits of taking antihypertensives will be more likely to acquire legally their antihypertensives.
- Ho2c: Perceived barriers have no influence on Medicare elders' acquisition of antihypertensives.

Ha2c: Medicare elders' perceptions about out-of-pocket expenditures will have a statistically significant influence on their decision to acquire antihypertensives.

Ho2d: Perceived seriousness of hypertension will have no influence on Medicare elders' decision to acquire antihypertensives.

Ha2d: Medicare elders who perceive hypertension as serious will be more likely to acquire antihypertensives than those who do not perceive hypertension as serious.

Ho2e: Cues to action has no influence on Medicare elders' decision to acquire antihypertensives.

Ha2e: Medicare elder's decision to acquire their antihypertensives is influenced by education and hypertension symptoms.

Ho3: Constructs from the both the Medication Adherence Model and Consumer Choice do not significantly explain Medicare elders' antihypertensive acquisition behaviors.

Ha3: Constructs from both the Medication Adherence Model and Consumer Choice significantly explain Medicare elders' antihypertensive acquisition behaviors.

Ho3a: Constructs from the Medication Adherence Model added to the enhanced Health Belief Model does not help to explain antihypertensive acquisition behavior for Medicare elders significantly greater than the enhanced Health Belief Model.

Ha3a: Constructs from the Medication Adherence Model helps to explain Medicare elders' antihypertensive acquisitions significantly greater than the enhanced Health Belief Model.

Ho3b: Constructs from Consumer Choice added to the enhanced Health Belief Model do not help to explain Medicare elders' antihypertensive acquisition behaviors significantly greater than the enhanced Health Belief Model.

Ha3b: Constructs from Consumer Choice added to the enhanced Health Belief Model does help to explain Medicare elders' antihypertensive acquisition behavior significantly greater than the enhanced Health Belief Model.

Ho4: The proposed Pharmaceutical Acquisition Model for Medicare Elder (enhanced Health Belief Model with constructs from Consumer Choice Theory and Medication Adherence) does not explain antihypertensive acquisition behavior for Medicare elders significantly better than the enhanced Health Belief Model.

Ha 4: The proposed Pharmaceutical Acquisition Model for Medicare Elderly (enhanced Health Belief Model with constructs from Consumer Choice Theory and Medication Adherence) explains antihypertensive acquisition behavior for Medicare elders significantly better than the enhanced Health Belief Model.

Data Analyses

Once data collection was completed, data were entered into SPSS (Version 16.0 for Windows) for analyses. Statistically appropriate methods using bivariate and multivariate methods were conducted (see Tables 10 and Table 11). Odds ratios were calculated for the dichotomized variables (acquire/not acquire). Chi-square calculations were employed on nominal, categorical data. Logistic regression was used to determine those factors that exerted influence upon the likelihood of antihypertensive acquisitions, including enrollment and application decisions. Confirmatory factor analysis was conducted on the survey response data to determine if the questions captured the intended constructs (Meyers,

Gamst, & Guarino, 2006). Model-fitting techniques were used to examine specific hypothesized relationships as well as model comparison (Meyers, Gamst, & Guarino, 2006) between the enhanced HBM and the proposed PAMME. Table 15 summarizes the types of analyses by research hypothesis.

Table 15

Hypotheses and Type of Analyses

Hypotheses Number	Type of Analyses
H1	Logistic Regression
H2	Multiple Regression
H2a	Multiple Regression
H2b	Multiple Regression
H2c	Chi-Square
H2d	Chi-Square
H2e	Chi-Square
H3	Model Comparison
H3a	Model Comparison
H3b	Model Comparison
H4	Model Comparison

Data Management

To prevent unauthorized access, Medicare elders' enrollment records and database files were properly safeguarded via password protection. All materials were kept in a

locked file cabinet in a locked office. The computer was accessible by password only, and only the primary researcher had access. Records will be destroyed within five years of the completion of the study, and the information filed on the research computer will be reformatted to make retrieval impossible after aggregate analyses and reporting has been completed.

Chapter 4

FINDINGS

Overview

The purpose of this study was to test the usefulness of the proposed Pharmaceutical Acquisition Model for Medicare Elders (PAMME) which was expanded using constructs from the enhanced Health Belief Model (HBM) (Janz & Becker, 1984), Consumer Choice Theory (Friedman, 1990) and the Medication Adherence Model (MAM) (Johnson, 2002) with respect to decision making for antihypertensive acquisitions. The various components of the PAMME were tested to determine which factors, if any, exerted influence upon antihypertensive acquisition decisions. The performance of the PAMME compared to that of the enhanced HBM was slightly better at predicting antihypertensive acquisition behavior by Medicare elders using this target population.

Data Collection

Target Population

The target population was selected from the Senior Services of Southeastern Virginia's (SSSEVA) Medicare Medication Management database. Initially, data and file review identified 1,079 individuals identified with hypertension. Further evaluation eliminated 181 individuals. Although Medicare eligible, they did not meet the qualifications set by the research protocol (65 years of age and older).

Informed Consent

Initially invitation letters ($N = 858$) were sent to potential participants to provide them with study details and to request their written consent for follow-up contact for the purposes of completing the administered survey. The individuals who consented were

contacted by the researcher and trained volunteers. Several attempts were made to contact the consenting Medicare elders. Follow-ups included site visits to three congregate meal sites to administer the survey at the consenting Medicare elders' request.

Survey Administration

Those who were contacted were able to complete the administered survey usually within one hour (approximately 45 minutes by telephone and approximately 25 minutes in person). The time of 45 minutes was under ideal conditions without Medicare elders relating additional healthcare experiences. The consenting Medicare elders were allowed to describe briefly their health care-related experiences. Their remarks were recorded by the trained interviewers. Rural Medicare elders were unable to be contacted by telephone as easily as urban dwellers due to attendance at congregate meal sites. Three site visits were scheduled to Isle of Wight, Suffolk, and Franklin to reach those consenting Medicare elders. The site directors and staff arranged appointment times for Medicare elders to meet with a trained interviewer. The Medicare elders explained that they preferred to see the interviewer face-to-face so that they could decide whether to complete the survey. Several participants explained that they screened their calls and do not answer surveys by telephone because they do not know if they can trust the person calling them.

Description of Results of Consumer Choice Theory and the Medication Adherence Constructs

Willingness to Pay

Table 16 shows the responses for *willingness to pay* as they relate to *better health*, *Medicare Part D*, and Medicare elders *primary blood pressure drug*.

Better health. When asked, *How much would you be willing to pay (per year) to have better health?* the majority (53.7%) of respondents either "refused" (35.8%) or did not know (17.9%) how much they would be willing to pay. For those Medicare elders who responded to this question, less than one-quarter (23.9%) were "willing to pay between $101 and $500" with slightly more than 10% (10.4%) "willing to pay between $501 and $1,000." Less than 5% were either "willing to pay up to $100" (3%) or "over $1,001 or more" (4.5%). Additional comments by respondents indicated that they would be "willing to pay whatever was necessary if they could afford it" to have better health.

Medicare Part D Plan. When asked, *How much would you be willing to pay (per month) for a Medicare Part D plan?* less than one-third (29.9%) of Medicare elders were *willing to pay nothing ($0)* for their Medicare plan or *willing to pay* from $1 to $35 per month (31.3%). Less than one-fifth (16.4%) were *willing to pay* from $36 to $50 per month to obtain a Medicare Part D plan with more than one-fifth (22.4%) *willing to pay* from $51 to $295 for their Medicare Part D plans. As some Advantage plans offered during the 2008 enrollment year had no premiums due from the member or Medicare elders who received Extra Help (monthly premium paid by Medicare), it really was possible to pay nothing ($0) for a plan.

Primary blood pressure drug. Approximately 12% of Medicare elders were *not willing to pay* ($0) out-of-pocket expenses for their primary blood pressure drug. Approximately 49.2% were *willing to pay* from $1 to $20 per month and more than one-third (31.3%) were *willing to pay* between $36 and $50. Only 7% were *willing to pay* from $51 to $250 out-of-pocket per month for their primary blood pressure drug.

Table 16

Willingness to Pay for Better Health, Medicare Part D, and Primary Blood Pressure Drug

Willingness to Pay	*n*	%
Better Health	67	
Nothing	3	4.5
Up to $100	2	3.0
Between $101 and $500	16	23.9
Between $501 and $1000	7	10.4
Over $1001 or More	3	4.5
Don't Know	12	17.9
Refused	24	35.8
Medicare Part D Plan	67	
Nothing ($0)	20	29.9
Between $1 and $35	21	31.3
Between $36 and $50	44	16.4
Between $51 and $295	15	22.4
Primary Blood Pressure Drug	67	
Nothing ($0)	8	11.9
Between $1 and $20	33	49.2
Between $21 and $50	21	31.3
Between $51 and $250	5	7.6

Affordability

Table 17 outlines Medicare elders' responses to the survey question that asked, *In the past 12 months, did someone ever? . . .* (a) arrange assistance to pay for blood pressure drugs, (b) talk about which blood pressure drugs definitely not to skip, (c) discuss the affordability of prescribed blood pressure drugs, (d) provide information about less expensive blood pressure drugs, and (e) provide information about programs to pay for the blood pressure drugs.

Arrange assistance to pay for blood pressure drugs. A majority (82.1%) of Medicare elders responding to questions about assistance from *a social worker or other professional* indicated that they had received no assistance. Approximately 18% had received some assistance.

Blood pressure drugs definitely not to skip. More than two-thirds (73.2%) of those answering the question about *whether anyone in the past 12 months had talk(ed) . . . about which blood pressure drugs you definitely should not skip* responded "No." More than one-quarter (26.9%) of Medicare elders responded in the affirmative.

Afford blood pressure drugs when prescribed. The majority (85.1%) of the Medicare elders responded that they had not been asked whether they could afford blood pressure prescriptions. Approximately 14.9% indicated that they had been asked.

Information about less expensive blood pressure drugs. Medicare elders also were asked whether anyone had given them information about where to purchase less expensive blood pressure drugs. About two-thirds (65.7%) of the respondents indicated that they had not received information about where to purchase less expensive blood pressure drugs. Slightly more than one-third (34.3%) answered affirmatively (*Yes*).

Information about programs to pay for blood pressure drugs. Medicare elders also were asked if anyone had given them information about programs that assist individuals with paying for blood pressure drugs. Less than two-thirds (64.2%) had not received information; more than one-third (35.8%) had received such information (*Yes*).

Table 17

Affordability of Blood Pressure Drugs

N = 67	No *n (%)*	Yes *n (%)*
Arrange Assistance to Pay for Blood Pressure Drugs	55 (82.1)	12 (17.9)
Blood Pressure Drugs Definitely Not to Skip	49 (73.2)	18 (26.9)
Afford Blood Pressure Drugs when Prescribed	57 (85.1)	10 (14.9)
Information About Less Expensive Blood Pressure Drugs	44 (65.7)	23 (34.3)
Information about Programs to Pay for Blood Pressure Drugs	43 (64.2)	24 (35.8)

Medication Adherence Model (MAM)

Adherence

To address adherence behaviors, Medicare elders were asked to think about the blood pressure drugs PRESCRIBED to them by their respective doctors and to respond to

these questions: *Do you ever forget to take your blood pressure drugs?* and *Are you careless at times about taking your blood pressure drugs*? Their responses are summarized in Table 18.

Forget to take. Less than one-half (41.8%) indicated that they *never* forget to take their blood pressure drugs. More than one-third (35.8%) responded that they *rarely* forgot. Less than 10% (9%) *sometimes* forgot, and less than 2% (1.5%) forgot either *often* or *always* to take your blood pressure drugs.

Careless about taking blood pressure drugs. Less than two-thirds (61.2%) indicated that they were *never* careless at times about taking blood pressure drugs. More than one-quarter (26.9%) responded that they *rarely* were careless. Less than 10% (9.0%) *sometimes* were careless. Less than 2% (1.5%) were careless at times either *often* or *always* about taking blood pressure drugs.

Stop taking blood pressure drugs: *Feel better or feel worse.* Medicare elders also were asked how they felt while taking blood pressure drugs. Some respondents indicated (see Table 18) that they stopped taking their blood pressure medication when they *felt better.* Others indicated that they stopped medicating when they *felt worse.* More than three-quarters (85.1%) of respondents *do not* stop taking blood pressure drugs when they *feel better* while more than 10% (10.4%) *rarely* stop taking the medication when they *feel better.* However, approximately 5% (4.5%) admitted to not taking blood pressure medication *sometimes* when they *feel better.* More than three-quarters (85.1%) indicated that they do not stop taking their blood pressure drugs when they *feel worse.* However, more than 10% (11.9%) *rarely* stopped while 3% *sometimes* stopped taking them when they *felt worse.*

Table 18

Adherence to a Blood Pressure Drug Regimen

	Never	Rarely	Sometimes	Often	Always
N = 67	*n (%)*	*n (%)*	*n (%)*	*n (%)*	*n (%)*
Forget to Take	28 (41.8)	24 (35.8)	14 (20.9)	1 (1.5)	—
Careless about Taking	41 (61.2)	18 (26.9)	6 (26.9)	1 (1.5)	1 (1.5)
Feel Better	57 (85.1)	7 (10.4)	3 (4.5)	—	—
Feel Worse	57 (85.1)	8 (11.9)	2 (3.0)	—	—

Access Behavioral Method

Table 19 summarizes the responses of Medicare elders when asked where they usually acquire their primary blood pressure drugs. The majority (83.6%) *always* acquire medication from a local pharmacy. Less than 10% either *always* receive *free samples* (6 %) or acquire their prescription through *mail order* (9%).

Free Samples

Approximately one-third of Medicare elders who responded received no free samples (zero) from their doctor or health care provider. Having received *no assistance* was not one of the response categories; the answer was a written comment in the margin of the survey form to indicate that response (see Table 20). Approximately 3% *do not know* if they received any free samples. However, more than one-third of Medicare elders have received either *a little help* (35.8%) or *some help* (31.3%) with free samples from their doctor or health care provider. However, many indicated that free samples were offered less frequently than in years past.

Table 19

Method of Acquisition of Primary Antihypertensive (HBP Rx)

Acquisition of	Never	Rarely	Sometimes	Often	Always
Primary HBP Rx:	*n (%)*	*n (%)*	*n (%)*	*n (%)*	*n (%)*
Local Pharmacy	4 (6.0)	3 (4.5)	—	4 (6.0)	56 (83.6)
Receive free samples	46 (68.7)	7 (10.4)	8 (11.9)	2 (3.0)	4 (6.0)
Share with someone	66 (98.5)	—	1 (1.5)	—	—
From Mail Order	57 (85.1)	1 (1.5)	2 (3.0)	1 (1.5)	6 (9.0)
Other _____	65 (97.0)	1 (1.5)	1 (1.5)	—	—

Table 20

Free Samples of Prescription Drugs from Physician

Receive Free Samples:	*n*	*%*
No Help (write in response)	20	29.9
A Little Help	24	35.8
Some Help	21	31.3
Don't Know	2	3.0

Antihypertensives Prescribed

Table 21 summarizes the prescribed antihypertensives that respondents indicated as those prescribed for them. Of the 138 drugs prescribed, approximately one-third (29.9%) of respondents indicated that they were prescribed Lisinopril. The majority (72.5%) of respondents were prescribed generics rather than name brand antihypertensives.

Table 21

Prescribed Antihypertensives

Antihypertensive	*n*	%
Lisinopril	21	29.9
Furosemide	18	13.0
Atenolol	10	7.2
HCTZ	8	5.8
Diovan	7	5.1
Metoprolol	7	5.1
Cozaar	5	3.6
Norvasc	5	3.6
Clonidine	4	2.9
Coreg	4	2.9
Other	40	29.0
Generic	100	72.5
Name Brand	38	27.5

Medicare Part D and Extra Help Status

The majority (50.7%) of Medicare elders have a *stand-alone prescription drug plan* while less than one-quarter (23.9%) have been approved for Extra Help. Less than one-half (43.3%) have a *favorable* view of Medicare Part D, while nearly one-third (28.9%) indicated an *unfavorable* view. Approximately 26.9% indicated *neutral* or *do not know.* These responses are listed in Table 22.

Table 22

Medicare Part D and Extra Help Status

Medicare Part D	*n*	*%*
Prescription Drug Plan (stand-alone)	34	50.7
Medicare Advantage Plan w/ Rx	20	29.9
Other (Medigap w/ PDP)	13	19.4
Extra Help		
No	51	76.1
Yes	16	23.9
View of Part D		
Favorable	29	43.3
Unfavorable	20	28.9
Neutral	13	19.4
Don't Know	5	7.5

Medicare Part D Plan Experiences

Medicare elders' were asked about their experiences obtaining an enrollment card and using their Medicare Part D plan (see Table 23). The majority (65.7%) have had to switch from a name brand to a generic drug. The majority have not had *difficulty getting their enrollment card* or *had to switch to another drug because it was not covered by their plan.* More than one-fourth (28.4%) *have had to pay costs they had not expected for a drug or a premium.* The majority (71.6%) of Medicare elders indicated that they believe that the generic works *just as well* as the name brand drug (see Table 24).

Table 23

Medicare Part D Plan Experiences

Medicare Part D Plan Experiences ($N = 67$)	% Have	% Have Not
Had difficulty getting enrollment card	3.0	97.0
Left Pharmacy w/o Rx – not covered by plan	20.9	79.1
Left Pharmacy w/o Rx – not able to afford	13.4	86.6
Switched Rx – not covered by plan	28.6	71.6
Switched from name brand to generic	65.7	34.4
Billing mistake for a Rx or a Premium	7.5	92.7
Costs hadn't expected for Rx or a Premium	28.4	71.6

Table 24

Impressions of Generics versus Name Brand Antihypertensives

Generics vs. Name Brand ($N = 67$)	*n*	%
Works better	2	3.0
Just as well	48	71.6
Not as well as name brand	7	10.4
Don't know	10	14.9

Enhanced Health Belief Model (HBM)

The demographic characteristics of the respondents are as follows: the majority of respondents were women (74.6%) who were at least 75 years of age or older (86.6%). Respondents were either currently married (32.8%) or widowed (44.8%) with a high

school education (25.4%) or greater (41.8%). The ethnicity of respondents was approximately one-half Caucasian/white (50.7%) or African-American/black (49.3%). Those consenting to participate did not indicate any other ethnicity.

Only 57 of the 67 respondents answered the income-related questions. The other respondents declined to answer those financially sensitive questions. Of those who chose to respond, 68% had monthly gross incomes of $2,850 or less and 57.9% had annual family incomes of $20,000 or less. Assets were not surveyed as all participants had been screened for Extra Help and assets information was available in the Medication Education database. More than one-third of respondents had assets below $11,750. Table 25 summarizes the demographic information for the survey respondents.

Individual Perceptions

Tables 26 through 29 present information about Medicare elders' perceptions regarding issues such as the benefits and barriers to acquiring prescribed antihypertensive drugs. Table 28 indicates that approximately 18% of the respondents are paying more than $50 in monthly out-of-pocket costs for their antihypertensives. While transportation is not perceived as a barrier by the majority (95.5%) of respondents, for those unable to obtain their antihypertensives as prescribed due to transportation barriers it is necessary to assist in minimizing this barrier. Possibly the use of pharmacies that deliver or Medicare elders' enrollment in the mail-order option of their prescription drug plans may provide a more reliable method of acquisition. Some respondents who indicated "No" had additional comments that their children or a neighbor took them to the pharmacy (often not exactly when their refills became available, but that they "eventually" were able to obtain their prescriptions).

Table 25

Demographics

	n	%
Age (*Mean* = 76.5 years, *SD* = 6.9 years)	67	
65-74 years old	26	38.8
75-84 years old	32	47.8
85-93 years old	9	13.4
Gender	67	
Male	17	25.4
Female	50	74.6
Ethnicity	67	
Caucasian/white	34	50.7
African-American/black	33	49.3
Marital Status	67	
Married	22	32.8
Divorced	10	14.9
Separated	2	3.0
Widowed	30	44.8
Never Been Married	3	4.5
Education	67	
None, or grade 1-8	7	10.4
High School Incomplete (9-11)	15	22.4
High School Graduate (12 or GED)	17	25.4
Technical/Trade/Vocational AFTER High School	8	11.9
Some College, no 4-year degree (includes AA/AS)	11	16.4
College Graduate (BS, BA, or other 4-year degree)	5	7.5
Post-graduate or professional schooling (Master's, PhD, JD, or MD)	4	6.0

Table 25 (continued)

	n	%
Income – Gross Monthly (*Mean* = $2,084, *SD* = $1,506)	57	
$0 - $1,250	26	45.6
$1,251 - $2,580	13	22.8
$2,581 - $4,080	13	22.8
$4,081 - $7,250	5	8.8
Income – Family	57	
$10,000 or less	12	21.0
$10.001 - $15,000	14	24.6
$15,001 - $20,000	7	12.3
$20,001 - $30,000	5	8.8
$30,001 - $50,000	11	19.2
$50,001 - $75,000	5	8.8
$75,001 - $100,000	3	5.3

Modifying Factors

Table 30 summarizes the responses for (a) time since first diagnosed, (b) time started taking blood pressure drugs, (c) number of different antihypertensives prescribed, and (d) knowledge of blood pressure effects.

Time since first diagnosed. The Medicare elders who responded had *first been diagnosed* from *one to 51 years ago*. Slightly more than one-third (34.3%) have been diagnosed with hypertension for *10 years or less*. Those Medicare elders who have been diagnosed with hypertension between *11 years to 25 years* are slightly more than approximately two-fifths (41.8%) and those *26 years to 51 years* are less than one-quarter (23.9%).

Table 26

Individual Perceptions

	n	%
Health Status: In general, would you say your health is?		
Excellent	2	3.0
Very Good	11	16.4
Good	27	40.3
Only Fair	23	34.3
Poor	4	6.0
Self-Efficacy: How confident are you that you can get blood pressure Rx as prescribed by doctor?		
Very Confident	50	74.6
Somewhat Confident	17	25.4
Perceived Susceptibility: To your knowledge, can you avoid getting high blood pressure?		
Yes	11	16.4
No	43	64.2
Don't Know	13	19.4
Perceived Threat: How dangerous do you perceive that high blood pressure is to your health? (0 = Not Dangerous to 10 = Extremely Dangerous) (*Mean* = 8.164, *SD* = 2.247)		
1-8	29	43.3
9-10	38	56.7
Perceived Seriousness: On a scale from zero to 100, how likely is it that your blood pressure would be high if you didn't take your blood pressure drugs? (0 = No Chance to 100 = Extremely Likely) (*Mean* = 89, *SD* = 15.798)		
1-60	6	9.0
61-89	14	20.9
90-100	47	70.1

Table 27

Perceived Barriers (i.e., Cost) to the Acquisition of a Primary Blood Pressure Drug

	Never	Rarely	Sometimes	Often	Always
Acquire Primary HBP Rx? (N = 67)	%	%	%	%	%
Take fewer pills or a smaller dose?	68.7	17.9	10.4	3.0	0
Not fill a prescription at all?	82.1	9.0	7.5	1.5	0
Put off or postpone getting a prescription drug filled?	85.1	7.5	7.5	0	0
Use herbal medicines or vitamins when you felt sick rather than take your prescription drug?	95.5	1.5	3	0	0
Take the drug less frequently than recommended; stretch out the time before a refill?	83.6	9.0	6.0	1.5	0
Split pills to help them last?	88.1	3.0	6.0	1.5	1.5
Shared pills with anyone else?	98.5	1.5	0	0	0
Someone shared pills with you?	97.0	3.0	0	0	0

Table 28

Perceived Barriers to Acquiring Blood Pressure Drugs

Perceived Barriers – Out-of-Pocket Costs

Not counting the costs paid by your insurance, how much do your blood pressure drugs cost you and your family each month? In other words, how much do you pay out-of-pocket per month? (in dollars)

	n	%
	67	
1-10	35	52.2
11-25	10	14.9
26-50	10	14.9
51-100	8	12.0
101-300	4	6.0

Perceived Barriers – Transportation

In the past 12 months, have you ever not filled your blood pressure drugs because you did not have transportation to get to the pharmacy?

	n	%
	67	
Yes	3	4.5
No	64	95.5

Time started taking blood pressure drugs. Medicare elders were asked, *How soon after your doctor prescribed a blood pressure drug did you start taking it?* The majority of respondents *started taking* their medication either *immediately* (43.3%) or *right away* (29.9%). Approximately 10% (10.5%) *started taking* it the same day or no later than the *next day* (16.4%).

Table 29

Perceived Benefit, Need, and Safety of the Acquisition of a Primary Blood Pressure Drug

Perceived Benefit		
On a scale from zero to 100, how likely is it that your BP drugs lower your blood pressure? (0 = No Chance to 100 = Complete Cure) (*Mean* = 84.970, *SD* = 22.336)	*n*	%
0 to 85	24	35.8
86 to 100	43	64.2
Perceived Need		
How much do you believe that the BP drugs are needed to control your HBP?	*n*	%
A little necessary	1	1.5
Somewhat necessary	12	17.9
Very necessary	23	34.3
Extremely necessary	30	44.8
Don't know	1	1.5
Are you currently taking any prescribed HBP Rx, or not?	*n*	%
Yes	67	100
Perceived Safety		
How much do you believe that the BP drugs are needed to control your HBP?	*n*	%
A little necessary	1	1.5
Somewhat necessary	12	17.9
Very necessary	23	34.3
Extremely necessary	30	44.8
Don't know	1	1.5

Note. $N = 67$.

Number of different antihypertensives prescribed. The number of different antihypertensives prescribed for this sample population ranged from one to four different antihypertensives. Slightly more than one-third (35.8%) have been prescribed at least one antihypertensive. Those Medicare elders who have been prescribed two different antihypertensives account for more than approximately one-quarter (28.4%) of the respondents, with slightly more than one-fifth (22.4%) prescribed three different antihypertensives. More than 10% (13.4%) of the Medicare elders were prescribed four antihypertensives.

Knowledge of blood pressure effects. The majority of Medicare elders interviewed had high levels of knowledge regarding blood pressure effects. Approximately 12% were *extremely* knowledgeable about blood pressure and its effects on the body, and 43.3% had *very much* knowledge about the effects of blood pressure. Approximately one-fifth had *some* (19.4%) or *very little* (20.9%) knowledge about high blood pressure. Less than 5% (4.5%) were *not at all* knowledgeable about the effects of high blood pressure.

Social Support

When asked, *How much support do you get in making blood pressure drug decisions?* respondents indicated a reasonably high level of support from doctors and pharmacists. Considerable variation exists among responses to the other answer categories to the question (see Table 31).

Spouse. More than three-quarters (80.6%) of Medicare elders interviewed indicated that they received no support *(none)* from a spouse. Respondents said that they received support from a spouse less than 10% for each of the following response categories: *a lot* (9.0%), *some* (7.5%) and *very little* (3.0%).

Table 30

Modifying Factors

Factors	*n*	%
Time Since First Diagnosed		
(*Mean* = 19 years; *SD* = 12.9 years, Range: 1-51 years)		
Less than 10 years	23	34.3
11 years to 25 years	28	41.8
26 years or more	16	23.9
Number of Different Antihypertensives Prescribed		
(*Mean* = 2 prescribed; *SD* = 1 prescribed, Range: 1-4 prescribed)		
One Antihypertensive	24	35.8
Two Antihypertensives	19	28.4
Three Antihypertensives	15	22.4
Four Antihypertensives	9	13.4
Time Stated Taking Blood Pressure Drugs		
How soon after your doctor prescribed a BP Rx did you start taking it?		
Immediately	29	43.3
Right Away	20	29.9
Same Day	7	10.5
Next Day	16.4	16.4
Knowledge of Blood Pressure Effects		
Are you knowledgeable of the effect high blood pressure has on your health?		
Not At All	3	4.5
Very Little	14	20.9
Some	13	19.4
Very Much	29	43.3
Extremely Much	8	11.9

Note. $N = 67$.

Children. More than one-half (56.7%) of Medicare elders indicated that they received no support *(none)* from their children in making blood pressure drug decisions. Medicare elders who received *very little* support accounted for 10.4% of respondents. Approximately 14.9% of Medicare elders received *some* support, while those who received *a lot* of support accounted for 17.9%.

Siblings. The majority of Medicare elders (83.6%) received no *(none)* support from their siblings in making blood pressure drug decisions. According to the respondents, their siblings provided *very little* support (9.0%), *some* support (1.5%), and a few received *a lot* (6%) of support in making blood pressure drug decisions.

Friend. Less than three-quarters (71.6%) of the Medicare respondents relied upon a friend or friends for support when making blood pressure drug decisions. Slightly more than 10% (11.9%) received *some* support from their friend(s) and other respondents received either *a lot* (9.0%) or *very little* (7.5%) support when making blood pressure drug decisions.

Neighbor. The majority (85.1%) of respondents indicated that they received no support *(none)* from a neighbor when making blood pressure drug decisions. Less than 5% received either *very little* (4.5%) or *a lot* (4.5%) of support from their neighbor. Approximately 6% received *some* support when making blood pressure drug decisions.

Visiting Nurse. Almost no respondents (92.5%) received support (*none*) from a visiting nurse when making blood pressure drug decisions. Medicare elders received less than 5% of either *very little* (3%) or *a lot* (4.5%) of support from a visiting nurse.

Social Worker. Almost no respondents (94.0%) received support from a social worker when making blood pressure drug decisions. Medicare elders received less than 5% of *very little* (1.5%), *some* (1.5%), or *a lot* (3.0%) of support from a social worker.

Table 31

Social Support Experienced by Medicare Elders

How much support do you get in making blood pressure drug decisions from each?				
	None	Very Little	Some	A Lot
	n (%)	*n (%)*	*n (%)*	*n (%)*
Spouse	54 (80.6)	2 (3.0)	5 (7.5)	6 (9.0)
Children	38 (56.7)	7 (10.4)	10 (14.9)	12 (17.9)
Siblings	56 (83.6)	6 (9.0)	1 (1.5)	4 (6.0)
Friend	48 (71.6)	5 (7.5)	8 (11.9)	6 (9.0)
Neighbor	57 (85.1)	3 (4.5)	4 (6.0)	3 (4.5)
Visiting Nurse	62 (92.5)	2 (3.0)	—	3 (4.5)
Social Worker	63 (94.0)	1 (1.5)	1 (1.5)	2 (3.0)
Doctor	9 (11.9)	5 (7.5)	20 (29.9)	34 (50.7)
Pharmacist	29 (43.3)	11 (16.4)	10 (14.9)	17 (25.4)
Other	64 (95.5)	—	3 (4.5)	—

Note. $N = 67$.

Doctor. A slight majority (50.7%) of Medicare elders received *a lot* of support from doctors when making blood pressure drug decisions; approximately one-third

(29.9%) indicated *some* support. Medicare elders received approximately 10% of either no support (*none*, 10.4%) or *very little* (7.5%) support from a doctor.

Pharmacist. Less than one-quarter (25.4%) of Medicare elders received *a lot* of support from a pharmacist while more than two-fifths (43.3%) indicated that they received no support (*none*) when making blood pressure drug decisions. More than 10% received either *very little* (16.4%) or *some* (14.9%) support from a pharmacist in making blood pressure drug decisions.

Other. Almost all respondents (95.5%) did not receive support from any other individual not previously mentioned (*none)*; however, approximately 5% (4.5%) relied upon grandchildren, godchildren, daughters-in-law or church members for support when making blood pressure drug decisions.

Cues to Action

Side Effects

The following responses from consenting Medicare elders are shown in Table 32. The majority of respondents suffered no side effects (*never)* when taking high blood pressure drugs; however, some of the respondents had side effects ranging from *headaches*, *dry mouth*, and *insomnia*, among others.

Headache. Approximately 79.1% of Medicare elders *never* experienced a *headache* from taking blood pressure drugs. Approximately 6% *rarely* or *sometimes* experienced headaches. One respondent *always* suffered from *headaches* while 7.5% *do not know* if their antihypertensive was the reason for their headache.

Nausea. Approximately 83.6% *never* experienced nausea when taking their antihypertensives. Approximately 6% *rarely* or *sometimes* experienced nausea, and 4.5% responded *do not know* when asked about *nausea* after taking their blood pressure drugs.

Dizziness. Less than three-quarters (70.1%) of respondents *never* experience dizziness when they take blood pressure drugs. Approximately 10% experience dizziness *rarely* (10.4%) or *sometimes* (9%). Approximately 3% *always* experience *dizziness* while 6% *do not know* if *dizziness* occurs when they take blood pressure drugs.

Loss of Appetite. More than three-quarters (85.1%) of Medicare elders *never* experience loss of appetite when they take blood pressure drugs. Approximately 3% experience loss of appetite *rarely* or s*ometimes* (6%). Approximately 6% *do not know* if loss of appetite occurs when they take their blood pressure drugs.

Insomnia. More than two-thirds (67.2%) of respondents *never* experience insomnia after taking their blood pressure drugs. Approximately 10% experience insomnia *rarely* (10.4%) or *sometimes* (9%). Approximately 4.5% *often* experience insomnia with approximately 1.5% *always* experiencing insomnia. Approximately 6% *do not know* if insomnia occurs when they take their blood pressure drugs.

Dry Mouth. Approximately one-half (50.7%) of respondents *never* experience dry mouth after taking their blood pressure drugs. Less than 10% (7.5%) experience it *rarely*. Less than one-fifth (19.4%) of the elders surveyed *sometimes* experience dry mouth. Approximately 9% *often* experience it. Approximately 6% *always* experience dry mouth while 7.5% *do not know* if dry mouth occurs when they take their blood pressure drugs.

Incontinence. Less than three-quarters (74.6%) of respondents *never* experience incontinence after taking their blood pressure drugs. Approximately 3% experience

Table 32

Side Effects

Have you ever experienced any of the following side effects after taking your HBP Rx?

	Never	Rarely	Sometimes	Often	Always	Don't Know
	n (%)	*n (%)*	*n (%)*	*n (%)*	*n (%)*	*n (%)*
Headache	53 (79.1)	4 (6.0)	4 (6.0)	—	1 (1.5)	5 (7.5)
Nausea	56 (83.6)	4 (6.0)	4 (6.0)	—	—	3 (4.5)
Dizziness	47 (70.1)	7 (10.4)	6 (9.0)	1 (1.5)	2 (3.0)	4 (6.0)
Loss of Appetite	57 (85.1)	2 (3.0)	4 (6.0)	—	—	4 (6.0)
Insomnia	45 (67.2)	6 (9.0)	8 (11.9)	3 (4.5)	1 (1.5)	4 (6.0)
Dry Mouth	34 (50.7)	50 (74.6)	13 (19.4)	3 (4.5)	6 (9.0)	5 (7.5)
Incontinence	5 (7.5)	2 (3.0)	7 (10.4)	3 (4.5)	1 (1.5)	4 (6.0)
Allergic Reaction	55 (82.1)	5 (7.5)	3 (4.5)	—	1 (1.5)	3 (4.5)
Other (Specify)	56 (83.6)	5 (7.5)	—	—	1 (1.5)	5 (7.5)

Note. $N = 67$.

incontinence *rarely* or *sometimes* (10.4%). Approximately 4.5% *often* experience incontinence while approximately 1.5% *always* experience incontinence. Approximately 6% *do not know* if incontinence occurs when they take their blood pressure drugs.

Allergic Reaction. Less than three-quarters (82.1%) of respondents *never* experienced an allergic reaction after take their blood pressure drugs. Approximately 7.5%

experience an allergic reaction *rarely* or *sometimes* (4.5%). Approximately 1.5% *always* experience allergic reaction while 4.5% *do not know* if an allergic reaction occurs when they take their blood pressure drugs.

Other (specified). More than three-quarters (83.6%) of respondents *never* experience other side effects after taking their blood pressure drugs. Approximately 7.5% *rarely experience other side effects.* Approximately 1.5% *always* experienced other side effects, while 7.5% *do not know* if other side effects occur when they take their blood pressure drugs. Other side effects indicated by respondents included *swelling tongue, dry cough, ringing in ears, heart issues,* and *cut down too much so that blood pressure shot up very high.*

Information

Medicare elders when asked, *Where do you get your information about high blood pressure treatment?* the majority of respondents relied upon their *healthcare provider.* Very few utilized the *internet* or *other* when seeking information about high blood pressure treatment. The responses are summarized in Table 33.

Healthcare Provider. More than one-half (52.2%) *always* get their information about high blood pressure treatment from their *healthcare provider.* More than 10% obtained their information about blood pressure treatment often (14.9%), *sometimes* (13.4%) or *rarely* (10.4%). Less than 10% *never* (9%) got information about high blood pressure treatment from their *healthcare provider.*

Health Publications. Less than one-half (47.7%) *never* utilized *health publications* when seeking information about high blood pressure treatment. Approximately one-fifth (19.4%) of Medicare elders *sometimes* used *health publications* for information about high

blood pressure. More than 10% *often* (14.9%) or *rarely* (11.9%) relied upon *health publications*. More than 5% (6.0%) of respondents *always* referred to *health publications* to provide information about high blood pressure treatment.

Internet. The majority (92.5%) of respondents *never* browse the *internet* for information about high blood pressure treatment. Approximately 6% *sometimes* use the *internet* while approximately 1.5% *always* consults the *internet* for information about high blood pressure treatment.

Table 33

Information Seeking for High Blood Pressure Treatment of Survey Respondents

Where do you get your information about HBP treatment?					
	Never	Rarely	Sometimes	Often	Always
	n (%)	*n (%)*	*n (%)*	*n (%)*	*n (%)*
Healthcare Provider	6 (9.0)	7 (10.4)	9 (13.4)	10(14.9)	35 (52.2)
Health Publications	32 (47.8)	8 (11.9)	13 (19.4)	10 (14.9)	4 (6.0)
Internet	62 (92.5)	—	4 (6.0)	1 (1.5)	—
Friends	46 (68.7)	7 (10.4)	10 (14.9)	4 (6.0)	—
Other_____	56 (83.6)	2 (3.0)	3 (4.5)	3 (4.5)	3 (4.5)

Friends. More than two-thirds (68.7%) *never* ask *friends* for information about high blood pressure treatment. More than 10% (14.9%) of respondents *sometimes* or *rarely* (10.4%) get information about high blood pressure treatment from *friends.* Approximately 6% *often* ask *friends* about high blood pressure treatment.

Other. More than three-quarters (83.6%) *never* got information about high blood pressure from anyone other than those previously mentioned. However, approximately 3% of Medicare elders *rarely* received information about high blood pressure, while approximately 4.5% *sometimes*, *often*, or *always* did. The sources of information ranged from 1.5% each for daughter-*in-law*, *daughter, grandson*, *nurse*, *newspaper/no computer*, with approximately 6% asking the *pharmacist.*

Media Events

Table 34 summarizes the percentages of responses to the following question: *What media events have influenced you to learn more about how to get your high blood pressure drugs?* The majority of Medicare elders *never* were influenced by *Medicare Mailings*, *Newspaper Articles*, *Public Service Announcements*, *Health Presentations,* or *Health Fair Brochures,* but *sometimes* were influenced by a *television program.*

Bivariate Relationships

Demographics and Acquisition

No significant relationships were found between gender, marital status, family income, and acquisition (refilled) of prescribed antihypertensives. There was no significant relationship between acquisition (refill) and out-of-pocket expense. However, while none of the low-income (less than $20,000) had difficulty acquiring their prescription drugs, approximately 6% of those in the higher income (20,001 or more) did not legally acquire (refill) their prescription drugs.

Self-efficacy. There was no significant relationship between self-efficacy and legal acquisition (refill). Despite the high levels of confidence (*very confident* and *somewhat*

Table 34

Media Events that Influenced Survey Respondents

	What influenced you?				
	Never	Rarely	Sometimes	Often	Always
	%	%	%	%	%
Medicare Mailings	59.7	13.4	13.4	4.5	9.0
Newspaper Article	53.7	16.4	17.9	6.0	6.0
Public Service Announcement	62.7	16.4	7.5	10.4	3.0
Health Presentation	65.7	14.9	14.9	3.0	1.5
Health Fair Brochure	59.7	13.4	23.9	3.0	0.0
Television Program	38.8	6.0	40.3	13.4	1.5

Note. $N = 67$.

confident) that Medicare elders had about their ability to get their blood pressure drugs, approximately 6% did not legally acquire (refill) their antihypertensives as prescribed.

Multivariate Relationships

Multivariate relationships include the analyses for principal components factor analysis. Initial extraction produced 33 factors from the 52 items (including sub-responses) on the survey instrument. The exclusion criterion was any factor not loading above .675 with eigenvalues lower than 1.0. After elimination of those items not sufficiently loading on a factor, the final extraction produced 22 factors that were interpretable.

Principal Component Factor Analyses

The following section summarizes the results of the principal component factor analyses for the 52 items and their sub-items loading +/- .675 or better on the factors having an eigenvalue of at least 1.0, the reliability of the factor scores, and the correlations between each factor and the six demographic items. The sample size of 67 corresponds with significant factor loadings of .675 (Hair, Jr., Anderson, Tatham, & Black, 1995) which will be utilized as the cut-off when eliminating variables. The 22-factor matrix accounted for 82.901% of the total variance of the data. The factors are interpreted (see Table 35) as follows:

Factor I: Health Beliefs. This factor comprises the belief about health status variable. This variable is concerned with beliefs about perceived level of health. The factor accounted for 9.222% of the total variance.

Factor II: Perceptions about Antihypertensives. The variables that loaded on this factor are those related to the perceived need for antihypertensives to lower or control hypertension. Another variable included was the perception of risk that antihypertensives pose to health. This factor accounted for 8.461% of the total variance.

Factor III: Perceptions about Acquisition of Antihypertensives. The variable that loaded on this factor was the monthly cost of antihypertensives. This factor accounted for 7.272% of the total variance.

Factor IV: Perceived Influence of Hypertension on Health. The variables in this factor include avoid getting hypertension or the dangers of hypertension. This factor accounts for 6.688% of the total variance.

Factor V: Self-efficacy. This factor includes the confidence in ability to acquire legally antihypertensives as prescribed. This factor accounts for 4.847% of the total variance.

Factor VI: Knowledge of Antihypertensives. The variables in this factor include confidence in the ability to get antihypertensives and accounts for 4.455% of the total variance.

Factor VII: Perceived Cost Barriers. The variables in this factor include perceptions of ways to reduce the out-of-pocket costs as well as reducing antihypertensive monthly costs. Methods of stretching time between refills or not acquiring at all or using alternatives are variables are included in this factor. This factor accounts for 4.284% of the total variance.

Factor VIII: Willingness to Pay. Variables loaded in this factor are the out-of-pocket monthly expenses for primary antihypertensive and the willingness to pay monthly for a Medicare Part D plan. This factor accounts for 3.774% of the total variance.

Factor IX: Affordability. This factor was concerned with whether a healthcare or social worker provided ways to pay for antihypertensives or whether the healthcare provider asked if the respondent could afford the antihypertensive before it was prescribed. This factor accounts for 3.621% of the total variance.

Factor X: Social Support. The variables that loaded on social support for antihypertensive decision making are siblings, friend, or neighbor for this factor. This factor accounts for 3.341% of the total variance.

Factor XI: Adherence. Variables that loaded on this factor include whether respondents forgot to take their antihypertensives. This factor also included variables for

whether respondents stopped taking their antihypertensives when they felt better or worse after taking them. This factor accounts for 3.230% of the total variance.

Factor XII: Side Effects. This factor includes variables for side effects experienced by respondents after taking their antihypertensives. The variables included headache, nausea, dizziness, loss of appetite, insomnia, dry mouth, incontinence, and allergic reaction. This factor accounts for 2.836% of the total variance.

Factor XIII: Information. Health publications, friends, and other are variables loaded on this factor for where respondents sought information about hypertension treatment. This factor accounts for 2.595% of the total variance.

Factor XIV: Media Events. The variables that loaded upon this factor include Medicare mailings, newspaper articles, public service announcement, health presentations, health fair brochures and television programs for this factor. This factor accounts for 2.511% of the total variance.

Factor XV: Medication Taking. The variables that comprise this factor include the number of different antihypertensives prescribed, when started taking antihypertensives and number of antihypertensives taken. This factor accounts for 2.375% of the total variance.

Factor XVI: Access Methods. The variables that loaded on this factor include local pharmacy, sharing with someone, and mail order to access their antihypertensives. This factor accounts for 2.167% of the total variance.

Factor XVII: Insurance. The variables that loaded on this factor include plan type and whether Extra Help was received. This factor accounts for 2.153% of the total variance.

Factor XVIII: Acquisition with Medicare Part D. The variables that loaded on this factor include enrollment card experiences, antihypertensives not covered by plan, unable to afford, billing mistakes, or having to pay unanticipated costs. This factor accounts for 2.041% of the total variance.

Factor XIX: Perception about Choosing a Medicare Part D Plan. The variables that loaded on this factor included difficulty with choosing a Part D plan and if respondents made a good choice. This factor accounts for 1.869% of the total variance.

Factor XX: Most Important Variables for Choosing a Medicare Part D Plan. This factor explores the variables that were most important to the selection of a Medicare Part D Plan. The variables that loaded on this factor are the amount for each prescription, the amount of monthly premiums and the specific drugs that were covered by the plan. This factor accounts for 1.807% of the total variance.

Factor XXI: Decision-making Influence. The variables that loaded on this factor include whether there was a monthly premium, which prescription drugs were included in the formulary, and the monthly charge for each antihypertensive. This factor accounts for 1.746% of the total variance.

Factor XXII: Perceptions for Part D Experiences Compared with Pre-Part D. This factor had loadings of variables for how much respondents paid for antihypertensives before compared with current out-of-pocket expenditures. The comparison of monthly premiums as well as whether the respondents were able to obtain antihypertensives as needed and getting answers to questions. This factor accounts for 1.605% of the total variance.

Table 35

Items and Factor Loadings for the Antihypertensive Acquisition Beliefs and Behaviors Instrument

Factor Items	Factor Loadings
Factor I: Health Beliefs	
16a. Health Status	.858
Factor II: Perceptions about Antihypertensives	
8a. Hypertension would be high if not take antihypertensives	.793
12a. Perception that antihypertensives lower hypertension to healthy levels	.773
13a. Need antihypertensives to control hypertension	.812
15a. Perceptions of risk for antihypertensives	.778
Factor III: Perceptions about acquisition of antihypertensives	
10a. Monthly cost of antihypertensives	.845
Factor IV: Perceived influence of hypertension on health	
6a. Avoid getting hypertension	.770
7a. Danger of hypertension	.796
Factor V: Self-Efficacy	
5a. Confident can acquire antihypertensives as prescribed	.819
Factor VI: Knowledge about antihypertensives	
23a. Knowledge of hypertension on health	.839
Factor VII: Perceived Cost Barriers	
9b. Not fill antihypertensive at all	.885
9c. Postpone getting antihypertensive filled	.818
9e. Take less frequently – stretch out time before refill	.784

Table 35 (continued)

Factor Items	Factor Loadings
Factor VIII: Willingness to Pay	
18a. Pay for Medicare Part D	.840
19a. Pay out-of-pocket for primary antihypertensive	.832
Factor IX: Affordability	
20a. Professional or social worker provide ways to pay for antihypertensives	.840
20b. Talk about which antihypertensives definitely not skip	.825
20d. Information where to get less expensive antihypertensives	.714
20e. Information about programs that help pay for antihypertensives	.842
Factor X: Social Support	
24c. Siblings	.814
24d. Friend	.818
24e. Neighbor	.881
Factor XI: Adherence	
26a. Forget to take	.866
26c. Stop taking – feel better	.829
26d. Stop taking – feel worse	.865
Factor XII: Side Effects	
27a. Headache	.840
27b. Nausea	.861
27c. Dizziness	.888
27d. Loss of Appetite	.888
27e. Insomnia	.847
27f. Dry mouth	.823
27g. Incontinence	.900
27h. Allergic reaction	.816

Table 35 (continued)

Factor Items	Factor Loadings
Factor XIII: Information	
28b. Health publications	.815
28d. Friends	.781
28e. Other	.856
Factor XIV: Media Events	
29a. Medicare mailings	.898
29b. Newspaper article	.870
29c. Public service announcement	.832
29d. Health presentation	.858
29e. Health fair brochure	.817
29f. Television program	.767
Factor XV: Medication Taking	
22a. Number of different antihypertensives prescribed	.835
30a. Began taking antihypertensives	.808
31a. Number of antihypertensives taken	.884
Factor XVI: Access Methods	
32a. Local Pharmacy	.931
32c. Share with someone	.857
32d. Mail Order	.925
Factor XVII: Insurance	
36a. Type of Plan	.808
37a. Extra Help status	.757
Factor XVIII: Acquisition with Medicare Part D	
38a. Difficulty getting enrollment card	.794
38b. Left pharmacy without antihypertensive – plan not cover	.752

Table 35 (continued)

Factor Items	Factor Loadings
38c. Left pharmacy without antihypertensive – can't afford	.850
38d. Switched antihypertensive – not covered by plan	.739
38f. Billing mistake for a premium or antihypertensive	.845
38g. Pay costs had not anticipated	.877
Factor XIX: Perceptions for choosing a Medicare Part D plan	
42a. Difficulty in choosing	.813
43a. Made a good choice	.855
Factor XX: Most important to choosing a Medicare Part D plan	
44a. Amount for each antihypertensive	.828
44d. The amount of monthly premiums	.773
44e. The specific antihypertensive covered	.748
Factor XXI: Decision-making Influence	
45b. Monthly Part D premiums	.873
45c. Antihypertensives covered by plan	.899
45d. Amount of monthly premiums	.853
45e. Specific antihypertensives covered	.790
Factor XXII: Perceptions for Part D Experiences compared with pre-Part D	
48a. How much pay for antihypertensives	.845
48b. Cost of monthly premiums	.767
48c. Getting antihypertensives needed	.849
48d. Getting answers to questions	.757

Summary Statistics

Means and standard deviations are presented for the 22 interpretable items in Table 36. The highest mean was found in Factor II: Perceptions about Antihypertensives. Factor XX: Most Important Variables for Choosing a Medicare Part D Plan had the lowest overall mean.

Internal Consistency of the 22 Interpretable Factors

Coefficient alphas were computed for each of the 22 factors to assess the internal consistency of items represented by each factor. The factor scores were calculated by adding respondents' coded responses for each item. Items were selected as a factor if loadings were +/- .675 or greater. The results are presented in Table 37 and shows that the internal consistency indices ranged from -.132 to .860. Additional review of Factor IV, V, XVII, and XIX are necessary to determine if additional variables should be utilized in further analyses.

Correlations

The six demographic and the mental health-age variables were compared with each of the 22 factor scores. The factor scores were computed (by adding each item responses to the other variables within the factor). None of the 22 correlations reached significance at the .05 level for either the demographic or mental health-age variables.

Table 36

Means and Standard Deviations for the Antihypertensive Acquisition Beliefs and Behaviors Variables

Perception Statement	*M*	*SD*	Overall *M*
Factor I: Health Beliefs			3.24
16a Health status – belief about health	3.24	.906	
Factor II: Perceptions about Antihypertensives			48.63
8a. Perception that your blood pressure would be high if not take antihypertensive	89.00	15.798	
12a. Perception that antihypertensives lower hypertension to healthy levels	84.97	22.336	
13a. Antihypertensives needed to control hypertension	4.27	.827	
15a. Perception of risk for antihypertensives	16.27	3.417	
Factor III: Perceptions about Acquisition of Antihypertensives		33.58	
10a. Monthly cost of antihypertensives	33.58	58.090	
Factor IV: Perceived influence of Hypertension on Health			4.35
6a. Avoid getting hypertension	.55	.803	
7a. Danger of hypertension	8.16	2.247	
Factor V: Self-efficacy			1.43
5a. Confident can acquire antihypertensives as prescribed	1.43	.891	
Factor VI: Knowledge about Effect of Hypertension			3.37
23a. Knowledge about hypertension related to health	3.37	1.085	
Factor VII: Perceived Cost Barriers			.25
9b. Not fill antihypertensive at all	.28	.670	
9c. Put off or postpone having a antihypertensive filled	.22	.573	
9e. Take antihypertensive less frequently	.25	.636	
Factor VIII: Willingness to Pay			34.33
18a. Pay for Medicare Part D	43.74	62.115	
19a. Pay out-of-pocket for primary antihypertensive	24.93	38.579	

Table 36 (continued)

Perception Statement	*M*	*SD*	Overall *M*
Factor IX: Affordability			.28
20a. Professional or social worker provide ways to pay for antihypertensives	.16	.386	
20b. Talk about which antihypertensives definitely not skip	.27	.447	
20d. Information where to get less expensive antihypertensives	.34	.478	
20e. Information about programs that help pay for antihypertensives	.36	.483	
Factor X: Social Support			.39
24c. Siblings	.30	.779	
24d. Friend	.58	1.017	
24e. Neighbor	.30	.779	
Factor XI: Adherence			.48
26a. Ever forget to take antihypertensives	.76	.775	
26b. Stop taking – feel worse	.51	.786	
26d. Stop taking – feel better	.18	.458	
Factor XII: Side Effects			.69
27a Headache	.61	1.435	
27b. Nausea	.40	1.129	
27c. Dizziness	.75	1.429	
27d. Loss of Appetite	.45	1.259	
27e. Insomnia	.82	1.435	
27f. Dry Mouth	1.34	1.647	
27g. Incontinence	.73	1.442	
27h. Allergic Reaction	.45	1.197	
Factor XIII: Information			.73
28b. Health Publications	1.19	1.340	
28d. Friends	.58	.956	
28e. Other	.43	1.076	
Factor XIV: Media Events			1.04
29a. Medicare Mailings	.90	1.316	
29b. Newspaper Article	.94	1.229	
29c. Public Service Announcement	.75	1.159	

Table 36 (continued)

Perception Statement	*M*	*SD*	Overall *M*
29d. Health Presentation	.60	.954	
29e. Health Fair Brochure	.70	.938	
29f. Television Program	1.33	1.175	
Factor XV: Medication Taking			2.10
22a. Number of different antihypertensives prescribed	2.09	1.063	
30a. Began taking antihypertensives	2.15	1.158	
31a. Number of antihypertensives taken	2.06	1.071	
Factor XVI: Access Methods			1.38
32a. Local pharmacy	3.57	1.1118	
32c. Share with someone	.03	.244	
32d. Mail order	.54	1.295	
Factor XVII: Insurance			.97
36a. Type of Plan	1.70	.798	
37a. Extra Help Status	.24	.430	
Factor XVIII: Acquisition with Medicare Part D			.22
38a. Difficulty getting enrollment card	.03	.171	
38b. Left pharmacy without antihypertensive-plan not cover	.21	.410	
38c. Left pharmacy without antihypertensive-cannot afford	.21	.538	
38d. Switched antihypertensive-not covered by plan	.28	.454	
38f. Billing mistake for a premium or antihypertensive	.07	.265	
38g. Pay costs had not anticipated		.33	.561
Factor XIX: Perception about choosing a Medicare Part D plan		2.40	
42a. Difficulty in choosing	2.79	.930	
43a. Made a good choice	1.72	.901	
Factor XX: Most important to choosing a Medicare Part D plan		.11	
44a. Amount for each antihypertensive	.13	.344	
44d. The amount of monthly premiums	.09	.288	
44e. The specific antihypertensive covered	.10	.308	
Factor XXI: Decision-making influence			2.51
45b. Monthly premiums	2.04	.976	
45c. Prescription drugs covered by the plan	2.10	1.116	

Table 36 (continued)

Perception Statement	*M*	*SD*	Overall *M*
45d. Amount the plan charges for each prescription drug	2.09	.933	
45e. Specific antihypertensives covered	2.81	1.145	
Factor XXII: Perceptions for Part D experiences compared with pre-Part D			3.385
48a. How much pay for antihypertensive	1.93	1.049	
48b. Cost of monthly premiums	2.25	1.106	
48c. Getting antihypertensives needed	2.34	1.081	
48d. Getting answers to questions	2.34	1.162	

Table 37

Coefficient Reliability Measures for the Antihypertensive Acquisition Beliefs and Behaviors Scales

Perceptions		*Alpha*
Factor I	Health Beliefs	.490
Factor II	Health Status	.491
Factor III	Perceptions about Acquisition of Antihypertensives	.466
Factor IV	Perceived Influence of Antihypertensives	.270
Factor V	Self-Efficacy	.132
Factor VI	Knowledge about Antihypertensives	.313
Factor VII	Perceived Cost Barriers	.634
Factor VIII	Willingness to Pay	.732
Factor IX	Affordability	.688
Factor X	Social Support	.693
Factor XI	Adherence	.550
Factor XII	Side Effects	.853
Factor XIII	Information	.604
Factor XIV	Media Events	.789
Factor XV	Medication Taking	.833
Factor XVI	Access Methods	.515
Factor XVII	Insurance	.186
Factor XVIII	Acquisition with Medicare Part D	.522
Factor XIX	Perception about Choosing a Medicare Part D Plan	.686
Factor XX	Most Important to Choosing a Medicare Part D Plan	.305
Factor XXI	Decision-making Influence	.838
Factor XXII	Perceptions for Part D Experiences Compared with Pre-Part D	.860

Hypotheses Testing Results

The results of the hypotheses testing are summarized in Table 38. Tables 39 through 45 present data about specific hypotheses. The following hypotheses were tested:

Table 38

Hypotheses Results Summarized

Hypotheses Number	Type of Test	Results
H1	Logistic Regression	Accepted
H2	Multiple Regression	Accepted
H2a	Multiple Regression	Rejected
H2b	Multiple Regression	Accepted
H2c	Chi-Square	Rejected
H2d	Chi-Square	Rejected
H2e	Chi-Square	Rejected
H3	Model Comparison	Rejected
H3a	Model Comparison	Rejected
H3b	Model Comparison	Rejected
H4	Model Comparison	Rejected

Ho1: Medicare elders do not legally acquire 100% of prescribed antihypertensive.

Ha1: Medicare elders legally acquire at least 70% of their prescribed antihypertensives. This hypothesis is accepted. Medicare elders participating in this study legally acquired 95.5% of prescribed antihypertensives.

Table 39

Legal Acquisition of Prescribed Antihypertensives

Dependent Variable	Independent Variables	Reference	â	SE of â	OR	95% for OR Lower	Upper
Legal Acquisition	Gender	0 = Male 1 = Female	-1.877	1.26	.153	.013	1.808
	Education	0 = Not HS Graduate 1 = HS Graduate or Higher	.095	1.254	1.100	.094	12.849
	Access*	0 = Low 1 = High	-1.72	.735	5.130	.042	.748
	Perception Choose Part D	0 = Not good Choice 1 = Good Choice	-1.510	.972	.527	.033	1.486

*$p < .05$

Ho2: The enhanced Health Belief Model overall does not explain Medicare elders' antihypertensive behaviors.

Ha2: The enhanced Health Belief Model overall explains less than 60% of antihypertensive behaviors for Medicare elders.

This hypothesis is accepted. The enhanced Health Belief Model overall explains less than 60% (53.8%) of antihypertensive behaviors for Medicare elders.

Table 40

The Enhanced Health Belief Model for Legal Acquisition of Antihypertensives

Variable	Unstandardized Coefficients		Standardized Coefficients	95% Confidence level for B		
	B	SE	â	Lower	Upper	*p*
Education	.052	.36	.216	-.021	.126	.159
Self-efficacy	-.019	.029	-.081	-.050	.070	.738
Perceived Health Status	.007	.033	.031	-.060	.074	.834
Perceived Need	-.060	.038	-.237	-.135	-.211	.118
Perceived Susceptibility	.008	.084	.014	-.161	.176	.928
Perceived Seriousness	-.048	.119	-.055	-.287	.191	.687
Perceived Need	-.060	.038	-.237	-.135	.016	.118
Perceived Barriers: Cost	.026	.042	.085	-.059	.111	.536
Perceived Benefits	.003	.001	.280	.000	.005	.056

Ho2a: Individual perceptions for the dangerousness of high blood pressure have no influence on Medicare elders' decision to acquire antihypertensives.

Ha2a: Medicare elders who perceive their hypertension as dangerous may be more likely to acquire legally their antihypertensives as prescribed.

This hypothesis is rejected. Hypertension was not perceived as dangerous enough to be a statistically significant influence on Medicare elders' decision to acquire antihypertensives. Perceived safety of antihypertensives was statistically significant at $p < .05$.

Table 41

Legal Acquisition of Antihypertensives Related to Perceived Dangerousness

Variable	Zero-Order r						
	Perceived Safety	Perceived Seriousness	Perceived Threat	Legally Acquire	â	sr^2	b
Perceived Threat				-.146	-.120	.011	-.033
Perceived Seriousness			.451	-.152	-.177	.002	-.004
Perceived Safety		-.098	.253	-.274	-.281*	.001*	-.005
					Intercept =		1.288
Mean	1.63	8.90	8.16	.96			
SD	2.800	1.580	2.247	.208		R^2 =	.12*

*$p < .05$

Ho2b: Perceived benefit of taking antihypertensives has no influence on Medicare elders' decision to acquire antihypertensives.

Ha2b: Medicare elders who perceive the benefits of taking antihypertensives will be more likely to acquire legally their antihypertensives.

This hypothesis is accepted. Perceived benefit does have a statistically significant ($p < .5$) influence on Medicare elders' decision to acquire legally their antihypertensives.

Ho2c: Perceived barriers have no influence on Medicare elders' acquisition of antihypertensives.

Table 42

Legal Acquisition of Antihypertensives Related to Perceived Benefits

	Zero-Order r					
Variable	Perceived Benefit	Perceived Need	Legally Acquire	â	sr^2	b
Perceived Need		-.105	.199	-.034	.021	-.134
Perceived Benefit	.342	.254	.002	.003	.001	.353
				Intercept =		5.410
Mean	4.27	8.50	.96			
SD	.827	2.23	.208	$R^2 = .13^*$		

$^*p < .05$

Ha2c: Medicare elders' monthly out-of-pocket expenditures will have a statistically significant influence on their decision to acquire antihypertensives.

This hypothesis is rejected. Out-of-pocket expenditures were not a statistically significant ($p > .05$ for both) influence on deciding whether to acquire antihypertensives.

Ho2d: Perceived seriousness of hypertension will have no influence on Medicare elders' decision to acquire antihypertensives.

Ha2d: Medicare elders who perceive hypertension as serious will be more likely to acquire antihypertensives than those who do not perceive hypertension as serious.

This hypothesis is rejected. Perceived seriousness does not have ($p > .05$) a statistically significant influence on Medicare elders' decisions to acquire antihypertensives.

Table 43

Out-of-Pocket Expenditures and Antihypertensive Acquisition

	Not Acquire Legally	Legally Acquire
Out-of-Pocket Monthly HBP Rx ($10 or Less)	2.1 (1)	97.3 (36)
Out-of-Pocket Monthly HBP Rx ($11 or More)	6.7 (2)	93.3 (28)
Out-of-Pocket Monthly Medicare Part D Premium ($30 or Less)	0.0 (0)	100.0 (37)
Out-of-Pocket Monthly Medicare Part D Premium ($31 or More)	10.0 (3)	90.0 (27)

Ho2e: Cues to action has no influence on Medicare elders' decision to acquire antihypertensives.

Ha2e: Medicare elder's decision to acquire their antihypertensives is influenced by information and side effects.

This hypothesis is rejected. Side effects does not have a statistically significant ($p > .05$) influence on Medicare elder's decisions to acquire their antihypertensives.

Table 44

Perceived Seriousness Influence on Antihypertensive Acquisitions

	Not Acquire Legally	Legally Acquire
Perceived Seriousness (Low, 70 or less)	0.00 (0)	100 (8)
Perceived Seriousness (High, 71 or more)	51.0 (3)	94.9 (56)

Ho3: Constructs from the both the Medication Adherence Model and Consumer Choice do not significantly explain Medicare elders' antihypertensive acquisition behaviors.

Ha3: Constructs from both the Medication Adherence Model and Consumer Choice significantly explains Medicare elders' antihypertensive acquisition behaviors.

This hypothesis is rejected. Neither Medication Adherence nor Consumer Choice significantly explains Medicare elders' antihypertensive acquisition behaviors. Each construct adds to the model but not at a statistically significant level. Comparing the enhanced Health Belief Model with the addition of Medication Adherence and Consumer Choice increased the overall percentage from 94.9 to 95.8.

Ho3a: Constructs from the Medication Adherence Model added to the enhanced Health Belief Model does not help to explain antihypertensive acquisition behavior for Medicare elders significantly greater than the enhanced Health Belief Model.

Table 45

Influence of Information and Side Effects on Acquisition Behaviors

	Not Acquire Legally	Legally Acquire
Side Effects (No = 0)	8.7 (2)	91.3 (21)
Side Effects (Yes = 1)	2.3 (1)	97.7 (43)

Ha3a: Constructs from the Medication Adherence Model helps to explain Medicare elders' antihypertensive acquisitions significantly greater than the enhanced Health Belief Model.

This hypothesis is rejected. The model constructs from Medication Adherence do not significantly help to explain acquisition behaviors better than the enhanced Health Belief Model. The enhanced Health Belief Model alone explains 94.9% and the addition of the Medication Adherence constructs increased the overall percentage to 95.5.

Ho3b: Constructs from Consumer Choice added to the enhanced Health Belief Model do not help to explain Medicare elders' antihypertensive acquisition behaviors significantly greater than the enhanced Health Belief Model.

Ha3b: Constructs from Consumer Choice added to the enhanced Health Belief Model does help to explain Medicare elders' antihypertensive acquisition behavior significantly greater than the enhanced Health Belief Model.

This hypothesis is rejected. The enhanced Health Belief Model helps to explain Medicare elders better, though not significantly better than the Consumer Choice constructs. The

enhanced Health Belief Model overall explains 94.9% and adding Consumer Choice increased the percentage to 95.2.

Ho4: The proposed Pharmaceutical Acquisition Model for Medicare Elder (enhanced Health Belief Model with constructs from Consumer Choice Theory and Medication Adherence) does not explain antihypertensive acquisition behavior for Medicare elders significantly better than the enhanced Health Belief Model.

Ha 4: The proposed Pharmaceutical Acquisition Model for Medicare Elderly (enhanced Health Belief Model with constructs from Consumer Choice Theory and Medication Adherence) explains antihypertensive acquisition behavior for Medicare elders significantly better than the enhanced Health Belief Model.

This hypothesis is rejected. The Pharmaceutical Acquisition Model for Medicare Elderly explains antihypertensive acquisition slightly better than the enhanced Health Belief Model but not at a statistically significant level. The enhanced Health Belief Model overall explains 94.9% and the Pharmaceutical Acquisition Model for Medicare Elderly overall explains 96.6%.

Chapter 5

DISCUSSION

The purpose of this study was to test the usefulness of the proposed Pharmaceutical Acquisition Model for Medicare Elders (PAMME); an expansion of the enhanced Health Belief Model (HBM) (Janz & Becker, 1984), using constructs from Consumer Choice Theory (Friedman, 1990) and the Medication Adherence Model (Johnson, 2002) with respect to decision making for antihypertensive acquisitions. The various components of the PAMME were tested to determine which factors exerted influence with respect to decision making for antihypertensive acquisitions. The performance of the proposed PAMME was compared to that of the enhanced HBM to determine which model is better at predicting antihypertensive acquisition behaviors of Medicare elders.

Limitations

Data Collection

Invitation sample size. The target population was selected from Senior Services of Southeastern Virginia's Medicare Medication Management database. Initially, database and file review identified 1,179 individuals with hypertension. From the initial review 320 were excluded for not meeting the selection criterion of 65 years of age or older. A total of 868 invitations were mailed in three phases from April 2009 to June 2009. During Phase 1, 679 invitations were mailed; 147 and 43, respectively, were mailed during Phase 2 and Phase 3. Invitees were selected from those eligible Medicare elders identified as meeting the initial selection criterion (aged 65 years of age or older, hypertensive, and prescribed at least one antihypertensive). When postage costs increased, an additional screening identified those

lost to follow-up or unable to contact us (deceased, undeliverable mail, mental illness, including dementia and Alzheimer's) as well as those with disconnected administered numbers or who moved from the coverage area.

True population eligible to be surveyed. When those deceased, not capable, undeliverable, or otherwise lost to follow-up were excluded from the 869 potentially eligible, the *true population* eligible to participate was 269. Of those truly eligible, 67 surveys were completed, which is the minimum required for statistical significance given power calculations for *alpha* = .05 (National Statistical Service, 2009). The other 599 were excluded for the following reasons: deceased (17.6%), not capable (14.7%), not eligible (14.4%), undeliverable (16.9%), and lost to follow-up (25.9%).

Response to invitations sent. Medicare elders who responded to the invitation/ consent letter consented either to be included in the study or declined to participate. Responders were those Medicare elders who either wrote or called to confirm their interest or to decline the invitation. Overall, 117 of those Medicare eligible to participate replied to the invitation (43.5% response rate). Of the 117, 81 Medicare elders responded favorably (consented) to the invitation to participate (favorable response rate of 69.2% of respondents). Of those who consented, 67 were able to complete successfully the survey (82.7%). Approximately 6% did not complete the survey after they had consented due to death, developing Alzheimer's, moving from the area, or declining upon being contacted. Thirty-six (36) Medicare elders declined to participate in the study (30.8% of respondents) when invited. Overall, 152 Medicare elders who were sent invitations did not reply (non-responders). However, 14 (9.2%) were excluded from the list of non-responders for

identifiable reasons. Of those, 14.3% from the population of eligible participants were identified as undeliverable through address or telephone number not being current.

Survey Administration

Mailing costs. When the surveys were initially mailed, the cost of a first-class stamp was $.42. That cost later increased to $.44, raising the cost of mailing invitations. Further screening was done on those awaiting invitations to determine if there were foreseeable reasons for non-response to minimize those undeliverable or not capable of being interviewed. Mailing the "thank you" gift of the pillbox increased from $.61 to $.78 per gift. This increase in postage also affected the cost of mailing the results of the survey.

Timing of mailing. The survey was originally scheduled to be conducted at the beginning of the year while FY 2008 was still fresh in Medicare elders' minds. However, delays in both survey approval and the mailing of the invitation/consent letters resulted in the first batch of surveys not being administered until the end of April 2009, with the last batch of survey responses collected through the end of August 2009.

Informed consent. Initially, invitation letters were sent to potential participants to provide them with the study details and to request their written consent for follow-up contact for the purposes of completing the administered survey. While the informed consent letters were mailed with postage-paid return envelopes, many of the invitation/ consent letters were not returned (67.9%). While the invitation response rate was in line with other research using mailed methods (approximately 32.1%), further file review was necessary to determine if non-responders would be able to be reached via another method. However, after several unsuccessful attempts were made to contact Medicare elders by mail and by telephone they were declared lost to follow-up.

Volunteers. The dedication level of the volunteers assisting the primary researcher was lower since the volunteers did not have a stake in the outcome. The volunteers had other priorities and were not as vigilant about data collection as the primary researcher was. While any assistance was greatly appreciated, the number of surveys completed may possibly have been reduced by the time constraints of the primary researcher. It may be necessary to hire paid employees in future research to have some control over the productivity of those involved with survey administration and other data collection efforts.

Target population demographics: The target population comprised individuals 65 years of age and older who were not taking prescription drugs for mental health (i.e., dementia, Alzheimer's among others). In this population, there is the possibility of losing Medicare elders to follow-up based upon death, relocation (out-of-state, assisted living, nursing home or with family), or declining health. Increases in the time between encounters reduces the ability to follow-up as other researchers have found that more than six months following an encounter, it may become difficult to locate those with chronic illness (Brinkhof, Pujades-Rodriguez, & Egger, 2009). The target population of hypertensive Medicare elders in southeastern Virginia contains approximately 39,197 individuals (Virginia Department of Health, Center for Health Statistics, 2008) of whom 1,178 had been assisted by SSSEVA with Medicare Part D enrollment.

Administered interviews. Survey administration could not always be conducted via telephone due to the mental illness or trust issues of the consenting Medicare elders, or the researcher's inability to contact them after three attempts.

Mental illness. Administered surveys were unable to be successfully completed by those individuals who consented and were contacted, but had mental health issues. Those

attempts were not included in the assessment, but were identified as not capable. It was later determined that those individuals with mental health issues were already being treated so no referrals to their respective doctors were necessary.

Trust. While the consenting respondents had indicated that they were comfortable with talking on the telephone, trust issues entered into the equation with frequent screening of calls and/or not answering calls from telephone numbers they did not readily recognize. The Medicare elders explained that they prefer to see the interviewer's face to decide whether to complete the survey. Several participants explained that they screen their calls and do not answer any surveys by telephone because they do not know if they can trust the person calling them. Those surveys would not have been completed if the interviewer had not been able to meet with them at their nutrition sites.

Inability to reach. In addition to the trust issues, Medicare elders at rural locations were not easily contacted via telephone due to regular attendance at congregate meal sites. Three site visits were conducted (Isle of Wight, Suffolk, and Franklin) to reach those consenting Medicare elders. The site directors and staff set up appointment times for the consenting Medicare elders to meet with a trained interviewer. Inability to contact Medicare elders by mail or telephone (mail came back as undeliverable, telephone numbers were no longer in service, or calls left on answering machines were not returned after three attempts) as well as death notices proved to be an obstacle to gaining approval for further contact.

Survey length. Medicare elders who consented also were concerned about the survey length (52 questions). A few respondents took advantage of the option to take a break and reschedule the completion of their Part D and Extra Help experiences for

another day (taking either one or two days more to complete). For those who were able to continue with the survey, the interviewer was able to inform them that the remainder of the survey (Medicare Part D and Extra Help questions) would not take more than 10 minutes to complete.

Incentive for survey completion. The seven-day pillbox given to help manage pill taking was not always seen as an incentive. Many other activities (nutrition, exercise, and health presentations) through Senior Services of Southeastern Virginia used the pillboxes as incentives as well. Consenting Medicare elders did complete the survey, but declined the pillbox, stating that *they had too many already*. The interviewer explained that an extra pillbox was nice for traveling, but not all accepted the incentive, even with that assertion.

Survey Instrument Development

The administered survey instrument was developed by combining previously tested survey instruments for assessment of mental health, medication adherence, perception of affordability, and experiences with the Medicare Part D drug benefit. The combined instruments were then sent to expert reviewers who reviewed the survey instrument for appropriateness for use with Medicare elders. The expert panel was comprised of gerontologists, elder care managers, elder caregivers, and Medicare elders. The expert panel was asked to assess the survey instrument for question appropriateness, whether any questions were harmful, and if they appeared to measure the intended concepts. After the expert panel provided input, the survey instrument was revised to reflect the expert panel's suggestions. The improved survey instrument was then administered to 35 Medicare elders (taking at least one antihypertensive) who would not be included in the final survey administration. After the survey instrument was pilot-tested, revisions were made to

exclude questions that did not load well (*alpha* coefficient of less than .675) during factor analyses or were confusing to the pilot respondents.

Survey Instrument Analyses

The principal component and factor analyses of the Antihypertensive Belief and Behaviors survey instrument revealed that Medicare elders who responded to this survey were influenced by cost of both the monthly premium and out-of-pocket expenses when making acquisition decisions. Surprisingly, Medicare elders were candid in their practice of *sharing with someone* who could be another family member, friend, or neighbor or having *someone share* with them. In addition, the doctor or healthcare professional who prescribed the antihypertensives was not a variable that loaded on any of the factors. Pharmacists were seen as more helpful, which could be a possible reason that Medicare elders are still using the local pharmacy despite Medicare claims that mail order could save them more money (Centers for Medicare and Medicaid Services, 2009). Affordability remains an issue for those Medicare elders who *left the pharmacy without their antihypertensives because they could not afford them.* Surprisingly, spouse and children did not load on the social support factor; many respondents were widowed (without children or children were not close) or single (widowed, divorced, or never married).

Lessons Learned

The most important lesson learned was that Medicare elders are very busy with social activities, doctor visits, and other daily living activities, so trying to reach them to complete a telephone survey is not an easy task. Additionally, with the increasingly popular use of cellular telephones, it becomes very important when requesting a telephone number for conducting a telephone survey that the researcher specifies, At *which number can you*

best be reached? Without obtaining Medicare elders' home and/or mobile administered telephone numbers, it may be difficult to reach them. As increasingly more Medicare elders are mastering the computer, it may be possible within the next couple of years to survey them via their e-mail address versus their home or mobile administered telephone number.

Future Research Proposed

One method that could be used to research this topic further would be contacting non-responders to determine a statistically significant difference between the response of those who participated and those who did not.

Another method would be to widen the scope to additional chronic disease states. Medicare elders usually have more than one chronic illness and while this study utilized hypertension and antihypertensives, additional research could expand this focus to other disease classes. A similar study could be conducted with the inclusion of questions to identify other chronic illnesses for which Medicare elders were taking prescription drugs. Funding for the study could be sought from either the National Institutes of Health or the Centers for Disease Control and Prevention with trained assistants being paid to collect data. Additionally, by widening the focus to more than just hypertension, it may be possible to attract a larger number of participants.

Conclusion

Overall, this study was helpful in exploring the possible linkages between health beliefs, consumer choice, and medication adherence. While the hypotheses were not all statistically significant in their results, the information gained allows other researchers to build upon this beginning. The inclusion of both consumer choice and medication adherence into this study may yet prove to be tools necessary to understand better the

complexity of the decision-making challenge of Medicare elders with respect to antihypertensive and other prescription drug acquisitions.

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SUMMARY OF APPENDICES

APPENDIX I: Definition of Terms

Several key terms are defined as follows:

1. Medicare Elders: An individual over 65 years of age eligible for the Medicare program (Centers for Medicare & Medicaid Services, 2005).
2. The Medicare Modernization Act of 2003 (MMA): A long awaited benefit added to Original Medicare to extend benefits for prescription drug coverage. The intention of MMA is to reduce overall annual prescription drug costs for Medicare elders (Centers for Medicare & Medicaid Services, 2005). Along with the prescription drug discount plan there are provisions for Health Savings Accounts (HSAs) and other health care cost saving initiatives (Centers for Medicare & Medicaid Services, 2005).
3. Medicare Part D: As a result of the enactment of the Medicare Modernization Act of 2003, the prescription drug discount program designed to provide coverage to Medicare elders previously lacking any other prescription coverage (Centers for Medicare & Medicaid Services, 2005).
4. Extra Help: Included in the Medicare Modernization Act of 2003, the provision for a Low-Income Subsidy (LIS) which is the Extra Help that low-income, low-asset Medicare elders require to help with premiums for Part D plans and to minimize co-pays for prescription drug acquisitions (Centers for Medicare & Medicaid Services, 2005).
5. Formularies: Prescription Drugs that are included in each plans negotiated discounted pricing schedule which includes name brand and generic offerings

(Hoadley, Hargrave, Merrell, Cubanski & Neuman, 2006; Centers for Medicare & Medicaid Services, 2005).

6. Coverage Gap ("Donut Hole"): Period of time where Medicare beneficiary is responsible for 100 percent of out-of-pocket prescription drug costs until catastrophic coverage begins (Centers for Medicare & Medicaid Services, 2006).
7. Hypertension: Blood pressure levels above 140/90 are required to be clinically diagnosed with hypertension (aka high blood pressure) (American Heart Association, 2007). The chronic illness is called the "silent killer" as often times there are no symptoms to alert individuals to potentially life threatening conditions (American Heart Association, 2007a).
8. Hypertension Treatment:

   a. ACE Inhibitors: Angiotensin converting enzyme (ACE) inhibitors are used to help protect the kidneys from hypertension and diabetes by improving blood flow through dilation of blood vessels (American Heart Association, 2007a; Small, Freeman-Arnold et al., 1997).

   b. Angiostein II Receptor Blockers (ARBs) are often prescribed when ACE inhibitors are not tolerated and function in lowering chemicals that narrow the blood vessels to allow blood to flow more freely (Small, Freeman-Arnold et al., 1997).

   c. Diuretics are often prescribed to help eliminate unnecessary sodium and water through urination. Reducing excess fluid and salt allow the heart to pump more easily (American Heart Association, 2007a).

d. Beta-Blockers are used to help the heart work more efficiently by blocking the effects of the sympathetic nervous system (American Heart Association, 2007a).

e. Calcium Channel Blockers are utilized to slow calcium movement into heart cells and blood vessel walls to improve heart functioning through widening of blood vessels (American Heart Association, 2007a).

APPENDIX II: Sample Size Calculations
Source: Six Sigma, 2007

Determining sample size is a very important issue because samples that are too large may waste time, resources and money, while samples that are too small may lead to inaccurate results. In many cases, we can easily determine the minimum sample size needed to estimate a process parameter, such as the population mean μ.

When sample data is collected and the sample mean $\bar{x}$ is calculated, that sample mean is typically different from the population mean μ. This difference between the sample and population means can be thought of as an error. The margin of error E is the maximum difference between the observed sample mean $\bar{x}$ and the true value of the population mean μ:

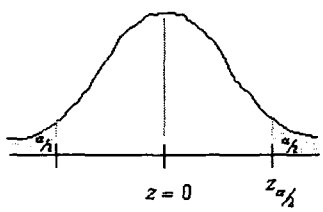
$$E = z_{\alpha/2} \cdot \frac{\sigma}{\sqrt{n}}$$

where:

$z_{\alpha/2}$ is known as the critical value, the positive z value that is at the vertical boundary for the area of $\alpha/2$ in the right tail of the standard normal distribution.

σ is the population standard deviation.

n is the sample size.



Rearranging this formula, we can solve for the sample size necessary to produce results accurate to a specified confidence and margin of error.

$$n = \left[\frac{z_{\alpha/2}\sigma}{E}\right]^2$$

This formula can be used when you know σ and want to determine the sample size necessary to establish, with a confidence of $1-\alpha$, the mean value μ to within $\pm E$. You can still use this formula if you don't know your population standard deviation σ and you have a small sample size. Although it's unlikely that you know σ when the population mean is not known, you may be able to determine σ from a similar process or from a pilot test/simulation.

Appendix III: Survey Instruments (A – E)

A. Seniors' Early Experiences with Their New Drug Plan – June 2006
Source: The Henry J. Kaiser Family Foundation

Methodology

Seniors' Early Experiences with Their Medicare Drug Plans - the 13th in a series that comprises three large surveys and ten smaller tracking polls - is based on interviews with 1,585 adults ages 65 and older. The survey was designed and analyzed by researchers at the Kaiser Family Foundation.

A nationally representative random sample of 1,217 adults ages 18 and older, including 285 participants ages 65 and older, was interviewed about a few topics in the news as part of the ongoing Kaiser Health Poll Report survey (referred to as the "main survey"), and asked the Medicare questions that follow. In addition, a nationally representative random sample of 1,300 adults ages 65 and older was asked the Medicare questions only, for a total of 1,585 seniors. Individuals were contacted by administered by Princeton Survey Research Associates International between June 8 and June 18, 2006. Interviews were conducted in English and Spanish.

Throughout these findings, we report on several different groups of seniors:

- All seniors (unweighted n=1,585)
- Seniors enrolled in Medicare drug plans, including those who reported being in stand-alone prescription drug plans, Medicare and Medicaid enrollees (i.e. dual eligibles), and Medicare HMO enrollees (40 percent of all seniors, unweighted n=623).
- Seniors enrolled in stand-alone Medicare drug plans - same as above, but excluding those in Medicare HMOs (32 percent of all seniors, unweighted n=509)
- Seniors enrolled in stand-alone Medicare drug plans that they chose on their own (as opposed to being assigned to a plan) (25 percent of all seniors, unweighted n=392)
- Seniors who have used their Medicare drug plans (28 percent of all seniors, unweighted n=443)

This survey is representative of seniors in the U.S. living outside institutions, but not of all Medicare elders because the survey did not include seniors living in institutional settings, such as nursing homes, nor younger, pre-65 Medicare elders with permanent disabilities.

The margin of sampling error for the survey is plus or minus 3 percentage points for all seniors, and plus or minus 4 points for seniors enrolled in Medicare drug plans. For results based on smaller subsets of respondents the margin of sampling error is higher. Note that sampling error is only one of many potential sources of error in this or any other public opinion poll.

Values less than 0.5percent are indicated by an asterisk (*). "VOL" indicates that a response was volunteered by respondent, not an explicitly offered choice.

1. For each item I name, please tell me how important it will be in your vote for Congress this year (2006). Will it be one of the single most important issues, very important, somewhat important or less important than that? (First/Next,) (READ AND RANDOMIZE)?

	Single Most Important	Very Important	Somewhat Important	Less Important	DK/ Refused
a. Situation in Iraq					
b. The US (United States) campaign against Terrorism					
c. Prescription drug benefit for the elderly					
d. The economy					
e. Healthcare overall					
f. Immigration Issues					
g. Local issues where you live					
h. Corruption in Washington					
i. Gas Prices					
j. The overall performance of the President					
k. The overall performance of Congress					
l. The overall performance of your Congressional Representative					

2. As you may know, a new prescription drug benefit is now available for people on Medicare. Given what you know about it, in general, do you have a favorable or unfavorable view of the new Medicare drug benefit?

Favorable	Unfavorable	Neither/Neutral	DK/Refused

3. Is your impression of the new Medicare drug benefit based mainly on… (READ AND RANDOMIZE 1-3)?

Based on those with a favorable or unfavorable impression of Medicare drug benefit

Your own experience	
What you've seen and heard on television, radio, and in newspapers	
What you've learned from friends and family	
Some other source	
(DO NOT READ) Don't know/Refused	

4. Do you have ANY health insurance plan or program that helps you pay for prescription drugs, or not?

Yes	No	Don't Know	Refused

5. I'm going to read you some statements about your health insurance and how your health care bills are paid. For each one, please tell me whether you think it describes your situation or not. (First/Next,)… (READ IN ORDER) (Does this describe your situation, or not?)

Based on seniors with any health insurance plan or unsure (n=1,203)

	Yes	No	DK/ Refused
a. You have Medicare and have also signed up or been enrolled in a separate Medicare drug plan, sometimes called "Part D"			
b. You have Medicare and Medicaid or _____, the program that provides health insurance and long term care to certain low-income seniors			
c. You are a member of a Medicare HMO			
d. You have Medicare and health care from the Veteran's Administration or VA			
e. You have Medicare and a plan from a current or former employer			
Item f based on those who said no/don't know to all other items (n=166) f. You have something else I haven't mentioned			

6. You said yes to more than one of the above. Please tell me which one of the following BEST describes your health coverage?

	Yes	No	DK/ Refused
a. Medicare and a plan from an employer or union			
b. Medicare plus a separate Medicare drug plan, sometimes called "Part D"			
c. A Medicare HMO			
d. Medicare and Medicaid or (State Medicaid program name)			
e. Medicare and VA			
f. Something else			

7. Have you also signed up or been enrolled in a separate Medicare prescription drug plan, sometimes called "Part D", or not?

Yes	No	Don't Know	Refused

8. To the best of your knowledge, if seniors wait until next year or later to enroll in a Medicare drug plan will they have to pay higher premiums, sometimes called a "premium penalty", or not?

Yes	No	Don't Know	Refused

9. To the best of your knowledge, if seniors wait until next year or later to enroll in a Medicare drug plan will they have to pay higher premiums, sometimes called a "premium penalty", or not?

Yes	No	Don't Know	Refused

10. Did you apply to Social Security for the program that gives low-income seniors extra help with prescription drug costs, or not?

Yes	No	Don't Know	Refused

a. Was your application approved, or not?

Approved	Disapproved	Don't Know	Refused

11. Would you say it was very easy, somewhat easy, somewhat difficult, or very difficult to choose a Medicare drug plan, OR were you just put in a plan and didn't make a choice for yourself?

Very Easy	Somewhat Easy	Somewhat Difficult	Very Difficult	Put in a Plan Didn't Make a Choice	Refused

12. In choosing your Medicare drug plan, please tell me how important each of the following was to your decision. (First,) how about... ? (READ AND RANDOMIZE). READ FOR FIRST ITEM, REPEAT AS NECESSARY: Was this very important, somewhat important, not too important or not at all important (in choosing your Medicare drug plan)?

	Single Most Important	Very Important	Not too Important	Not at all Important	DK/ Refused
a. The reputation of the company offering the plan					
b. The amount the plan charges in monthly premiums					
c. The specific drugs covered by the plan					
d. The amount the plan charges for each prescription					
e. A recommendation from someone you trust					

13. Which one was the MOST important to your decision to choose your Medicare drug plan? (IF NECESSARY, READ ITEMS RATED "VERY IMPORTANT" IN Q12)

a.	The amount for each prescription	
b.	A recommendation from someone you trust	
c.	The reputation of the company	
d.	The amount of monthly premiums	
e.	The specific drugs covered	
f.	All are important	
g.	None are important	
h.	Don't Know/Refused	

14. How satisfied are you with the (IF Q6=4: drug coverage under your plan/IF (Q6=1,3 OR Q7=1): Medicare drug plan you are enrolled in)? Would you say you are very satisfied, somewhat satisfied, not too satisfied, not at all satisfied?

Very Satisfied	Somewhat Satisfied	Not too Satisfied	Not at all Satisfied	Don't Know	Refused

15. All in all, have your experiences using your (IF Q6=4: plan/IF (Q6=1, 3 OR Q7=1): new Medicare drug plan) been very positive, somewhat positive, somewhat negative, or very negative?

Very Positive	Somewhat Positive	Somewhat Negative	Very Negative	Don't Know	Refused

16. Compared with how you got your prescriptions before, please tell me whether your new Medicare drug plan is better, worse, or about the same in terms of each of the following. (READ AND RANDOMIZE). (READ FOR EACH ITEM) Compared with how you got your prescriptions before, is your new drug plan better, worse, or about the same in terms of (INSERT)...

	Better	Worse	Same	Don't Know	Refused
a. How much you pay for prescriptions					
b. The cost of your monthly premiums					
c. Getting the medicines you need					
d. Getting answers to your questions					

17. Overall, do you feel you made a good choice in selecting your Medicare drug plan, or do you think you would have been better off with a different plan?

Based on seniors enrolled in stand-alone Medicare drug plans that they chose on their own

Made a Good Choice	Better off with a different plan	Don't Know	Refused

18. If you had to choose today, would you pick the same plan or would you choose a different drug plan?

Based on seniors enrolled in stand-alone Medicare drug plan

Would pick the same plan	Would choose a different plan	Don't Know	Refused

19. (IF Q6=4: Since January of this year,) Have you tried to fill any prescriptions under your (IF Q6=4: plan/IF (Q6=1, 3 OR Q7=1): new Medicare drug plan yet), or not?

Based on seniors enrolled in Medicare drug plans

a.

Yes	No	Don't Know	Refused

20. Compared to what you paid for prescriptions last year, are you now saving money, paying more or paying about the same overall for your prescriptions?

Saving money	Paying more	Paying about the same	Refused

21. Would you say that you are saving a lot of money, or just a little?

Saving a lot of money	Saving Just a little	Don't Know	Refused

22. Would you say that you are paying a lot more money, or just a little more?

Paying a lot more money	Paying just a little more	Don't Know	Refused

23. Have these additional costs been a major problem, a minor problem or not a problem for you? **Based on seniors who are paying more**

Major Problem	Minor Problem	Not a Problem	Don't Know	Refused

24. Please tell me whether or not you've had any of the following experiences related to getting your prescription medicines since (IF Q6=4: January 2006/IF (Q6=1,3 OR Q7=1): joining your new Medicare drug plan). Have you... or not? (READ AND RANDOMIZE)

	Have	Have Not	Don't Know	Refused
a. Had difficulties getting enrollment card				
b. Left the pharmacy without your prescription because one of your drugs wasn't covered by y\our plan				
c. Left the pharmacy without your prescription because you could not afford it				
d. Had to switch drugs because one of your drugs that you were taking wasn't covered by your plan				
e. Had to switch from a brand-name to a generic drug				
f. Had to deal with a billing mistake for a prescription or a premium				
g. Had to pay costs you hadn't expected – either for a prescription or a premium				

25. Was this a major problem, minor problem or not a problem for you? **Based on seniors who have used their Medicare drug plans** (YES – Had an experience)

	Major Problem	Minor Problem	Not a Problem	No - Did Not Have An Experience	Don't Know/ Refused
a. Had difficulties getting enrollment card					
b. Left the pharmacy without your prescription because one of your drugs wasn't covered by y\our plan					
c. Left the pharmacy without your prescription because you could not afford it					
d. Had to switch drugs because one of your drugs that you were taking wasn't covered by your plan					
e. Had to switch from a brand-name to a generic drug					
f. Had to deal with a billing mistake for a prescription or a premium					
g. Had to pay costs you hadn't expected – either for a prescription or a premium					

26. Thinking about the (IF 2+ PROBLEMS IN Q25A-G: problems/IF ONE PROBLEM IN Q25A-G: problem) you had related to getting your prescriptions, would you say (IF 2+ PROBLEMS IN Q25A-G: they have/IF ONE PROBLEM IN Q25A-G: it has) been resolved to your satisfaction, or not?

Based on seniors who have used their Medicare drug plans

Experienced one or more problems related to filling prescriptions	
Problems resolved to satisfaction	
Problems NOT resolved	
Had one or more experiences, but not a problem	
Didn't have any of the listed experiences	
Don't know/Refused	

27. Earlier you said you changed a medication since (IF Q6=4: January 2006/IF (Q6=1, 3 OR Q7=1): joining your new Medicare drug plan). Do you think the new drug works better, just as well or not as well as the old one?

Works better	
Just as well	
Not as well as the old one	
Don't know/Refused	

28. Since (IF Q6=4: January 2006/IF (Q6=1,3 OR Q7=1): joining your new drug plan), have you NOT filled a prescription, skipped doses, or taken less than the prescribed dose of a medication because of the cost, or not?

Based on seniors enrolled in Medicare drug plans

Yes	
No	
Don't know/Refused	

29. To the best of your knowledge, if you are dissatisfied with your (IF Q6=4: plan/IF (Q6=1,3 OR Q7=1): new Medicare drug plan) can you change to a different plan whenever you want, or do you have to wait for a specific period?

Based on seniors enrolled in Medicare drug plans

Can change to different plan	
Have to wait	
Don't know/Refused	

30. Some plans have what's called a "coverage gap" or "donut hole" - a point where the plan stops paying for prescriptions and seniors are required to pay the full cost of their medicines for a while. Does your (IF Q6=4: plan/IF (Q6=1,3 OR Q7=1): Medicare drug plan) have such a coverage gap, or not?

Based on seniors enrolled in Medicare drug plans

Yes, coverage gap	
No, no coverage gap	
Don't know/Refused	

31. Since (IF Q6=4: January 2006/IF (Q6=1,3 OR Q7=1): joining your new Medicare drug plan), have you asked your DOCTOR for help getting your plan to pay for the drugs you need, or not?

Based on seniors enrolled in Medicare drug plans

Yes	
No	
Don't know/Refused	

32. How much help have you received from your DOCTOR in getting your plan to pay for the drugs you need? Would you say you received (READ)

Based on seniors enrolled in Medicare drug plans who asked their doctor for help

A little help	
Some help	
Don't know/Refused	

33. Since (IF Q6=4: January 2006/IF (Q6=1,3 OR Q7=1): joining your new Medicare drug plan), have you asked your PHARMACIST for help getting your plan to pay for the drugs you need, or not?

Based on seniors enrolled in Medicare drug plans

Yes	
No	
Don't know/Refused	

34. How much help have you received from your PHARMACIST in getting your plan to pay for the drugs you need? Would you say you received (READ)

Based on seniors enrolled in Medicare drug plans who asked their pharmacist for help

Yes	
No	
Don't know/Refused	

35. Overall, what message would you send to policymakers in Washington? Would you say the new Medicare drug benefit (READ)

Based on seniors enrolled in Medicare drug plans

A	Is working well and no real changes are needed	
B	Could be improved with some minor changes OR	
C	Is not working and needs major changes	
D	Don't know/Refused	

36. Thinking back to last year, in 2005, did you have any insurance plan or program that helped you pay for prescription drugs, or not?

Yes	
No	
Don't know/Refused	

37. Do you currently take any prescription medicine on a daily basis, or not?

Yes	
No	
Don't know/Refused	

38. How many different prescription drugs do you take?

39. In general, would you say your health is excellent, very good, good, only fair, or poor?

Excellent	
Very good	
Good	
Only fair	
Poor	
Don't know/Refused	

DEMOGRAPHICS:

(READ) Finally, I have just a few questions we will use to describe the people who took part in our survey...

D1. RECORD RESPONDENT'S SEX

Male	
Female	

D2. What is your age? (RECORD EXACT AGE AS A TWO-DIGIT CODE)

D3. In politics today, do you consider yourself a Republican, Democrat, or Independent?

Republican	
Democrat	
Independent	
(VOL.) No preference/Not interested in politics	
(VOL.) Other party	
Don't know	
Refused	

D4. These days people are so busy they can't find time to register to vote, or move around so often they don't get a chance to re-register...Are you NOW registered to vote in your precinct or election district, or haven't your been able to register so far?

Yes, registered	
No, not registered	
Don't know/Refused	

D5. What is the LAST grade or class that you COMPLETED in school? (DO NOT READ)

None, or grade 1-8	
High school incomplete (grades 9-11)	
High school graduate (grade 12 or GED certificate)	
Technical, trade or vocational school AFTER high school	
Some college, no four-year degree (includes associate degree)	
College graduate (B.S., B.A., or other four-year degree)	
Post-graduate or professional schooling after college (e.g., toward a Master's degree or PhD; law or medical school)	
Refused	

D6. Are you currently married, living with a partner, widowed, divorced, separated, or have you never been married?

Married	
Living as married	
Divorced	
Separated	
Widowed	
Never been married	
Don't know/ Refused	

D7. Last year -- that is, in 2005 -- what was your total family income from all sources, before taxes? Just stop me when I get to the right category. (READ)

$10,000 or less	
$10,001 to $15,000	
$15,001 to $20,000	
$20,001 to $30,000	
$30,001 to $50,000	
$50,001 to $75,000	
$75,001 to $100,000	
$100,001 to $200,000	
More than $200,000	
(DO NOT READ) Don't know	
(DO NOT READ) Refused	

D8. Are you, yourself, of Hispanic or Latino background, such as Mexican, Puerto Rican, Cuban, or some other Spanish background?

D9. What is your race? Are you white, black, Asian or some other race? (IF RESPONDENT SAYS HISPANIC ASK: Do you consider yourself a white Hispanic or a black Hispanic? CODE AS WHITE (1) OR BLACK (2). IF RESPONDENTS REFUSED TO PICK WHITE OR BLACK HISPANIC, RECORD HISPANIC AS "OTHER," CODE 4)

B. The Short Portable Mental Status Questionnaire (SPMSQ)

1. What are the date, month, and year?
2. What is the day of the week?
3. What is the name of this place?
4. What is your phone number?
5. How old are you?
6. When were you born?
7. Who is the current president?
8. Who was the president before him?
9. What was your mother's maiden name?
10. Can you count backward from 20 by 3's?

SCORING:*

0-2 errors: normal mental functioning

3-4 errors: mild cognitive impairment

5-7 errors: moderate cognitive impairment

8 or more errors: severe cognitive impairment

*One more error is allowed in the scoring if a patient has had a grade school education or less.
*One less error is allowed if the patient has had education beyond the high school level.

Source: Pfeiffer, E. (1975). A short portable mental status questionnaire for the assessment of organic brain deficit in elderly patients. Journal of American Geriatrics Society. 23, 433-41.

Compiled by the Great Plains Area Chapter of the Alzheimer's Association, 1999. http://www.hospitalmedicine.org/geriresource/toolbox/pdfs/short_portable_mental_statu.pdf

C. Questions to Identify Patients Experiencing Medication Cost Problems

1. Not counting the costs paid by your insurance, how much do your prescription drugs cost you and your family each month? In other words, how much do you typically pay "out-of-pocket" per month for prescription drugs?
2. In the past 12 months, how often did you worry about being able to pay for your prescription medicines?
3. During the past 12 months, you spent less on food, heat, or other basic needs so that you would have enough money for your medicines?
4. In the past 12 months, did you ever have to borrow money from a friend or relative outside of your household to pay for your prescription medicines?
5. In general, over the past 12 months did you have to increase the amount of credit card debt you carried month-to-month because of the cost of your prescription drugs?
6. In the past 12 months, how often have you ever done any of the following because you were concerned about the cost of your prescription drugs?
   A. Take fewer pills or a smaller dose
   B. Not fill a prescription at all
   C. Put off or postpone getting a prescription filled
   D. Use herbal medicines or vitamins when you felt sick rather than take your prescription medication
   E. Take the medication less frequently than recommended to stretch out the time before a refill
7. In the past 12 months, did someone at your health center ever...
   A. Arrange for you to meet with a social worker or other professional to help you find a way to pay for your drugs?
   B. Talk with you about which drugs you definitely should not skip?
   C. Ask you whether you could afford the medication when they gave you a prescription?
   D. Give you information about where to get less expensive drugs?
   E. Give you information about programs that help people pay for their drugs?

Source: California Healthcare Foundation (November 2005),
Rx for Affordability: Helping Patients Cope with Medication Costs

D. Medication Adherence – Morisky Scale

Option 1:

Thinking of the drugs PRESCRIBED to you by your doctor, please answer the following questions. No=0; Yes=1

		No	Yes
A	Do you ever forget to take your drugs		
B	Are you careless at times about taking your drugs?		
C	When you feel better, do you sometimes stop taking your drugs?		
D	Sometimes if you feel worse when you take your drugs, do you stop taking them?		

Option 2:
May also be administered as a 5-point response option

Thinking of the drugs PRESCRIBED to you by your doctor, please answer the following questions. Never=0; Rarely=1; Sometimes=2; Often=3; Always=4

		Never	Rarely	Sometimes	Often	Always
A	Do you ever forget to take your drugs					
B	Are you careless at times about taking your drugs?					
C	When you feel better, do you sometimes stop taking your drugs/					
D	Sometimes if you feel worse when you take your drugs, do you stop taking them?					

Source: Vik, Maxwell, Hogan, Patten, Johnson, Romonko-Slack, 2005, e154-e155.

E. Senior Services of Southeastern Virginia (SSSEVA): Access & Acquisition of Prescription Drugs Survey

Date/Time Contacted: _____
Number of Contact Attempts: _____

Demographic Information: (Verify Database Information)
Name: From Database

Address: From Database

Administered: From Database

Gender: M F

Birth date:
- What age were you on your last birthday? _____

Ethnicity: African/American/Black Hispanic Asian
Caucasian/White Other _____

Medicare Status:
- Do you have Medicare? YES NO

Medicaid Status:
- Do you have Medicaid? YES NO

Employment Status:
- Never Worked
- Retired – Not Working
- Retired – Working Part-time
- Retired – Working Full-time
- Not Retired Yet: Working – Part-time
- Not Retired Yet: Working – Full-time
- Other _____

Annual Income
- 0 - $5000
- $5001 – $10,000
- $10,001 – $15,000
- $15, 001 – $20,000
- $20,001 - $25,000
- $25,001 – above

Insurance Status:

- Do you have insurance that covers your prescriptions? YES NO
  If YES, Plan Name: _____

  If NO, How do you pay for your prescriptions?

- Does your employer (or previous employer) help pay for your prescriptions (creditable coverage)? YES NO

  If NO, Continue with Part D Status
  If YES, Part D NOT REQUIRED, Continue with Extra Help Status

Part D Status:

- Have you enrolled in a Part D plan? YES NO
  If NO, Why not?
  _____

  If YES enrolled, Have you received your card? YES NO

  If NO, When did you enroll?
  _____

  If YES received card, have you used your card? YES NO

  If YES, have you noticed any savings? YES NO

  How much do you think you have saved? _____

  If NO, Why do you believe you have not saved money?
  _____

- Have you had any problems using your card? YES NO
  If YES, What happened?
  _____

- Have you switched plans? YES NO
  If YES, Why did you switch?
  _____

- What is your current plan? _____

Cognitive Processes Part D:

- Did anyone help you to enroll in a Part D plan? YES NO
- IF YES, Who helped?
  - o Friend _____
  - o Family member(s) _____
  - o Media Broadcasts _____
  - o Information Sessions
  - o Senior Services
  - o Auto-Enrolled/Facilitated Enrollment
  - o Other _____

- What made you decide to enroll in a Part D plan?
  - o Fear of late enrollment penalty
  - o Anticipated Savings
  - o No prescription coverage
  - o Cost of plans
  - o Plan coverage
  - o Wanted to save money
  - o Other _____

- How did you enroll in Part D?
  - o Help from Senior Services
  - o Applied on-line
  - o Called Medicare's 800 number
  - o Caregiver or family member enrolled
  - o Enrollment event
  - o Other _____

- How important is price to you in selecting a Part D plan?
  - o Very Important
  - o Important
  - o Somewhat Important
  - o Not Very Important

- How important is price to you in choosing to fill a prescription?
  - o Very Important
  - o Important
  - o Somewhat important
  - o Not Very Important

- Do you have any suggestions for improving the Part D enrollment process?
  YES NO

If YES, please give a FEW examples

_____

Extra Help Status:

- Did you receive a letter from Social Security telling you about Extra Help?
  YES NO

  If YES, what did it tell you? _____

- Have you been screened eligible for Extra Help? YES NO

- Did you apply for Extra Help? YES NO

- Were you approved for Extra Help? YES NO

  If YES, What percentage of help were you approved for?

  100 % 75 % 50% 25% Don't Know

  If NO, Why not? _____

Cognitive Processes Extra Help:

- Did anyone help you to apply for Extra Help? YES NO

- What helped you decide to apply for Extra Help?
  - Friends
  - Family
  - Media Broadcasts
  - Information Received in Mail
  - Couldn't afford Part D premiums
  - Other _____

Social Supports:

- Does anyone help you with health care decisions? YES NO
  If YES, who helps? _____

- Has anyone discussed Part D enrollment with you? YES NO
  If YES, Who? _____

(If Applicable)

- Has anyone helped you enroll in Part D? YES NO
  If YES, who helped? _____

- Has anyone talked to you about applying for Extra Help?
  YES NO

  If YES, who talked to you? _____

(If Applicable)

- Did anyone help you apply for Extra Help? YES NO
  If YES, who was involved? _____

Other Programs Status (i.e. TPC...)

- Have you received free drugs through any program(s)?
  YES NO
  If YES, Which program(s)? _____

  Which drugs were you able to get? _____

- Are you still getting free drugs? YES NO

  If NO, Why not?

  _____

Disability Status:

- Are you currently receiving disability benefits? YES NO

  If YES, How long have you been receiving them? _____

  What age did you start receiving benefits? _____

Accessibility:

- Are you currently taking any prescriptions? YES NO

  If YES, How many have been prescribed? _____
  How many do you regularly fill? _____
  Which ones? _____

- Have you been able to fill all prescriptions prescribed by your doctor?
  YES NO
  If NO, Why not?

  _____

- What prescriptions have you been able to fill?

  _____

- What methods have you tried to get your prescriptions?

  _____

  _____

- Have you had been able to take all prescriptions as prescribed?
  YES NO

If NO, What has prevented you from doing so? _____

_____

- Have you used any techniques to extend your drugs? YES NO

  If YES, What have you tried?
  - Skipped dosages? YES NO
  - Split pills? YES NO
  - Shared pills with anyone else? YES NO
  - Someone shared pills with you? YES NO
  - Other _____

Health Status:

- How would you assess your health?
  - Poor
  - Fair
  - Good
  - Excellent

- In the past year, have you had to go to emergency room? YES NO

  If YES, Why? _____

  How many times have you gone?_____

- Within the past six months, have you gone to see your doctor? YES NO
- What conditions or illnesses has your doctor told you that you have?
  - For which conditions or illnesses are you currently taking prescription drugs? _____

- Does your doctor provide you with free prescription samples? YES NO
  - If YES, which ones?

    _____

- What other methods are you using to control or prevent illness (all that apply)?
  - OTC (over-the-counter) remedies
  - Home remedies
  - Vitamins/Natural Supplements
  - Other _____

Transportation:

- How do you get to doctor visits?
  - Friend/Neighbor drives
  - Relative drives
  - Take bus
  - Drive my own car
  - Walk

- Senior Services Transportation
- Other _____

- How do you get drugs from the pharmacy?
  - Friend/Neighbor takes
  - Relative brings me
  - Take bus
  - Drive my own car
  - Walk
  - Senior Services Transportation
  - Home Delivered
  - Other _____

Follow-up:

- Would you be willing to share your ideas in a focus group?

  YES NO

  If YES, please request best times to contact. Let respondent know they will be contacted about meeting time and location.
  Please note any special needs (transportation, disability, etc.)

  _____

- Anything else you would like to add? YES NO

  If YES, allow for a few comments and proceed to THANK YOU.

  _____

  Thank you for your time and for helping to provide information that may help in improving the Part D and Extra Help programs.

F. Modified Administered Survey Instrument

Name:_____

Administered Number: _____

Attempt #1:
Date:_____ Time: _____ Completed Yes/No

Attempt #2:
Date:_____ Time:_____ Completed Yes/No

Attempt #3:
Date:_____ Time:_____ Completed Yes/No

Hello! My name is _____ and I am calling to get your ideas and opinions about Medicare Part D and to determine whether you are able to get your blood pressure medicine or not. We are conducting this administered survey to find out if Part D is working for you and if you are able to get your blood pressure medicines as prescribed by your doctor.

Thank you for agreeing to participate in this research. When you complete the survey you will receive a seven day pill box. Your answers are voluntary and you may choose not to answer any questions you feel uncomfortable answering. You may decide to stop the interview at any time.

Let's get started.

(READ) First, I have just a few questions we will use to describe the people who took part in our survey...

DEMOGRAPHICS:

D1. RECORD RESPONDENT'S GENDER (Do not Ask)

A	Male	
B	Female	

D2. What is your ethnicity? Are you white, black, Hispanic, Asian or some other ethnicity?

A	Caucasian/White	
B	African/American/Black	
C	Hispanic	
D	Asian	
E	Other	

D3. Are you currently married, living with a partner, widowed, divorced, separated, or have you never been married?

A	Married	
B	Living as married	
C	Divorced	
D	Separated	
E	Widowed	
F	Never been married	
G	Don't know/ Refused	

D4. Last year -- that is, in 2007 -- what was your gross monthly income?
(ROUND TO WHOLE DOLLAR AMOUNT) _____

D5. Last year -- that is, in 2007 -- what was your total family income from all sources, before taxes? Just stop me when I get to the right category. (READ)

A	$10,000 or less	
B	$10,001 to $15,000	
C	$15,001 to $20,000	
D	$20,001 to $30,000	
E	$30,001 to $50,000	
F	$50,001 to $75,000	
G	$75,001 to $100,000	
H	$100,001 to $200,000	
I	More than $200,000	
J	(DO NOT READ) Don't know	
K	(DO NOT READ) Refused	

D6. What is the LAST grade or class that you COMPLETED in school? (DO NOT READ)

A	None, or grade 1-8	
B	High school incomplete (grades 9-11)	
C	High school graduate (grade 12 or GED certificate)	
D	Technical, trade or vocational school AFTER high school	
E	Some college, no four-year degree (includes associate degree)	
F	College graduate (B.S., B.A., or other four-year degree)	
G	Post-graduate or professional schooling after college (e.g., toward a Master's degree or PhD; law or medical school)	
H	Refused	

Next, I am going to start by asking you a few questions to verify the date, (month, day, year) and day of the week. Then I will ask how old you are and when were you born.

1. What are the month, day and year? _____

2. What is the day of the week?_____

3. How old are you? _____

4. When were you born? _____

Next, I am going to ask you some questions about your high blood pressure experiences and the drugs prescribed.

Individual Perceptions

SELF-EFFICACY

5. How confident are you that you can get your blood pressure medicine as prescribed?

	Very Confident	Somewhat Confident	Somewhat Negative	Very Negative	Don't Know	Refused
A						

PERCEIVED SUSCEPTIBILITY

6. To your knowledge, can you avoid getting high blood pressure?

	Very Confident	Somewhat Confident	Somewhat Negative	Very Negative	Don't Know	Refused
A						

PERCEIVED THREAT

7. How dangerous do you perceive that high blood pressure is to your health? (on a scale from 0 to 10 with 0 = Not Dangerous to 10 = Extremely Dangerous)

0----------10
Not Dangerous — Extremely Dangerous

PERCEIVED SERIOUSNESS

8. On a scale from zero (0) to 100, how likely is it that your blood pressure would be high if you didn't take your blood pressure drugs? (on a scale from 0 to 100 with 0 = No Chance to 100 Extremely Likely)

0----------100
No Chance — Extremely Likely

PERCEIVED BARRIERS - COST

9. In the past 12 months, how often have you ever done any of the following because you were concerned about the cost of your blood pressure drugs?

		Never	Rarely	Sometimes	Often	Always
A	Take fewer pills or a smaller dose					
B	Not fill a prescription at all					
C	Put off or postpone getting a prescription filled					
D	Use herbal medicines or vitamins when you felt sick rather than take your prescription medication					
E	Take the medication less frequently than recommended to stretch out the time before a refill					
F	Split pills to make them last					
G	Shared pills with anyone else					
H	Someone shared with you					

10. Not counting the costs paid by your insurance, how much do your blood pressure drugs cost you and your family each month? In other words, how much do you typically pay "out-of-pocket" per month for your blood pressure drugs?_____

PERCEIVED BARRIERS - TRANSPORTATION

11. In the past 12 months, have you ever not filled your blood pressure drugs because you did not have transportation to get to the pharmacy?

A	Yes	
B	No	
C	Don't Know	
D	Refused	

PERCEIVED BENEFIT

12. On a scale from zero (0) to 100, how likely is it that your blood pressure drugs lower your blood pressure? (on a scale from 0 to 100 with 0 = No Chance to 100 Complete Cure)

0----------100
No Chance — Complete Cure

PERCEIVED NEED

13. Do you believe that the blood pressure drugs prescribed are needed to control your high blood pressure?

	Not at all Necessary	A Little Necessary	Somewhat Necessary	Very Necessary	Extremely Necessary	Don't Know
A						

14. Are you currently taking any prescribed blood pressure drugs, or not?

A	Yes	
B	No	
C	Don't Know	
D	Refused	

PERCEIVED SAFETY

15. To what extent do you believe that blood pressure drugs are risky to your health? (on a scale from 0 to 100 with 0 = Not Harmful to 100 Extremely Harmful)

0----------100
Not Harmful — Extremely Harmful

Next, I am going to ask you a few questions about your health, willingness to pay and affordability.

HEALTH STATUS

16. In general, would you say your health is excellent, very good, good, only fair, or poor?

A	Excellent	
B	Very good	
C	Good	
D	Only fair	
E	Poor	
F	Don't know/Refused	

WILLINGNESS TO PAY

17. How much would you be willing to pay to have better health?

A	Nothing	
B	Up to $100	
C	Between $101 and $500	
D	Between $501 and $1000	
E	Over $1001or more	
F	Don't Know/Refused	

18. How much are you willing to pay (per month) for a Medicare Part D plan? (RECORD) _____

19. How much are you willing to pay (per month) for your primary blood pressure drug? (RECORD) _____

AFFORDABILITY

20. In the past 12 months, did someone ever...

		Yes	No	Don't Know	Refused
A	Arrange for you to meet with a social worker or other professional to help you find a way to pay for your drugs?				
B	Talk with you about which drugs you definitely should not skip?				
C	Ask you whether you could afford the medicine when they gave you a prescription?				
D	Give you information about where to get less expensive drugs?				
E	Give you information about programs that help people pay for the drugs?				

Modifying Factors

Next, I am going to ask you when you were diagnosed with high blood pressure, the number of drugs prescribed and how much you know about the effects of high blood pressure.

TIME SINCE DIAGNOSED

21. How long ago did the doctor tell you had high blood pressure? (When First Diagnosed) (RECORD) _____

MEDICATION TAKING BEHAVIORS

22. **How many different** blood pressure drugs has your **doctor prescribed**? (RECORD NUMBER) _____

KNOWLEDGE

23. Are you knowledgeable of the effect high blood pressure has on your health?

	Not at All	Very Little	Some	Very Much	Extremely Much
A					

Now, I am going to read you a list of people and I would like you to tell me how much support you receive from each of them.

SOCIAL SUPPORT

24. How much support do you get in making blood pressure drug decisions from each of the following: (READ)

		None	Very Little	Some	A Lot	Don't Know
A	Spouse					
B	Children					
C	Siblings					
D	Friend					
E	Neighbor					
F	Visiting Nurse					
G	Social Worker					
H	Doctor					
I	Pharmacist					
J	Other					

25. How much help have you received from your DOCTOR in getting free samples of your blood pressure drugs? (READ)

A	A little help	
B	Some help	
C	(DON'T READ) Don't know	
D	(DON'T READ) Refused	

CUES TO ACTION - SYMPTOMS

26. Thinking of the blood pressure drugs PRESCRIBED to you by your doctor, please answer the following questions.

		Never	Rarely	Sometimes	Often	Always
A	Do you ever forget to take your blood pressure drugs?					
B	Are you careless at times about taking your blood pressure drugs?					
C	When you feel better, do you sometimes stop taking your blood pressure drugs?					
D	Sometimes if you feel worse when you take your blood pressure drugs, do you stop taking them?					

CUES TO ACTION - SIDE EFFECTS

27. Have you ever experienced any of the following side effects after taking your blood pressure drugs? (Read List in Random Order)

		Never	Rarely	Sometimes	Often	Always	Don't Know
A	Headache						
B	Nausea						
C	Dizziness						
D	Loss of Appetite						
E	Insomnia						
F	Dry Mouth						
G	Incontinence						
H	Allergic Reaction						
I	Other (specify)						

CUES TO ACTION – INFORMATION

28. Where do you get your information about high blood pressure treatment?

		Never	Rarely	Sometimes	Often	Always
A	Healthcare Provider					
B	Health Publications					
C	Internet					
D	Friends					
E	Other_____					

CUES TO ACTION – MEDIA EVENTS

29. What media events have influenced you to learn more about how to get your high blood pressure drugs?

		Never	Rarely	Sometimes	Often	Always
A	Medicare Mailings					
B	Newspaper Article					
C	Public Service Announcement					
D	Health Presentation					
E	Health Fair Brochure					
F	Television Program					

MEDICATION TAKING BEHAVIORS

30. How soon after your doctor prescribed a blood pressure drug did you start taking it? (RECORD) _____

31. What are the **names** of the blood pressure drugs **you actually take (per day)**? Ask whether it is a Name Brand or Generic. (Record Names & Type)

	Name	Brand	Generic
Rx Name1: _____		_____	_____
Rx Name2: _____		_____	_____
Rx Name3: _____		_____	_____
Rx Name4: _____		_____	_____
Rx Name5: _____		_____	_____
Rx Name6: _____		_____	_____

ACCESS BEHAVIORAL METHOD

32. Where do you usually get (acquire) your primary blood pressure drug?

		Never	Seldom	Sometimes	Often	Always
A	At the local Pharmacy					
B	Receive free samples					
C	Share with Someone					
D	From Mail Order					
E	Other_____					

OUTCOME

33. **Which of the previously mentioned** blood pressure drugs do you **acquire as prescribed (either 30 day or 90 day supply)**? (Record Names & Frequency of refill)

Name Refill Frequency

34. **Have you gotten less than the prescribed supply of your blood pressure drug?**

	Never	Seldom	Sometimes	Often	Always
A					

35. Have you ever not gotten any of your blood pressure drugs?

	Yes	No	Don' t Know	Refused
A				

If YES, Why? _____

Now, we have completed the blood pressure portion of the survey. At this point you can decide to take a break and I will call you back later to discuss the Medicare Part D and Extra Help, or we can continue. Which would you prefer?

IF would like to take a break: Thank you for your time. What is a good day and time for me to call you back? (RECORD DAY & TIME). Schedule a call back.

IF would like to continue:

Next, I am going to ask you a few general questions about Medicare Part D and Extra Help.

MEDICARE PART D & EXTRA HELP STATUS

36. What type of Medicare Part D plan do you have?

	Prescription Drug Discount Plan (Stand Alone)	Medicare Advantage Plan with Rx	Other	Don't Know	Refused
A					

37. **Are you receiving** Extra Help to help pay for prescription drug costs, or not?

	Yes	No	Don't Know	Refused
A				

Now, I would like to ask you a few questions about your Medicare Part D experiences and your opinions about how you think the policy is working.

MEDICARE PART D AND EXTRA HELP EXPERIENCES AND OPINIONS:

38. Please tell me whether or not you've had any of the **following experiences** related to getting your blood pressure prescription medicines since joining your Medicare Part D drug plan.

Have you... or not? (READ AND RANDOMIZE)

		Have	Have Not	Don't Know	Refused
A	Had difficulties getting enrollment card				
B	Left the pharmacy without your prescription because one of your drugs wasn't covered by your plan				
C	Left the pharmacy without your prescription because you could not afford it				
D	Had to switch drugs because one of your drugs that you were taking wasn't covered by your plan				
E	Had to switch from a brand-name to a generic drug				
F	Had to deal with a billing mistake for a prescription or a premium				
G	Had to pay costs you hadn't expected – either for a prescription or a premium				

39. Given what you know about Part D, in general, do you have a **favorable or unfavorable** view of the Medicare Part D drug benefit?

	Favorable	Unfavorable	Neither/Neutral	Don't Know	Refused
A					

40. Is your impression of the Medicare Part D drug benefit based mainly on... (READ AND RANDOMIZE 1-3)?
Based on those with a favorable or unfavorable impression of Medicare Part D drug benefit

		Yes	No
A	Your own experience		
B	What you've seen and heard on television, radio, and in newspapers		
C	What you've learned from friends and family		
D	Some other source		
E	(DO NOT READ) Don't know		
F	(DO NOT READ) Refused		

41. Since many plans are now requiring generics to be substituted for name brand drugs, to cut costs, do you think the **generic drug works better, just as well or not as well as the name brand**?

A	Works better	
B	Just as well	
C	Not as well as the name brand	
D	Don't know	
E	Refused	

42. Would you say it was very easy, somewhat easy, somewhat difficult, or very difficult to choose a Medicare drug plan, OR were you just put in a plan and didn't make a choice for yourself?

	Very Easy	Somewhat Easy	Somewh at Difficult	Very Difficult	Put in a Plan Didn't Make a Choice	Refused
A						

43. Overall, do you feel you made a good choice in selecting your Medicare prescription drug discount plan, or do you think you would have been better off with a different plan?

	Made a Good Choice	Better off with a different plan	Don't Know	Refused
A				

44. Which one was the MOST important to your decision to choose your Medicare drug plan?

A	The amount for each prescription	
B	A recommendation from someone you trust	
C	The reputation of the company	
D	The amount of monthly premiums	
E	The specific drugs covered	
F	All are important	
G	None are important	
H	Don't Know	
I	Refused	

45. In choosing your Medicare drug plan, please tell me how important each of the following was to your decision. (First,) how about... ? (READ AND RANDOMIZE)

READ FOR FIRST ITEM, REPEAT AS NECESSARY: Was this very important, somewhat important, not too important or not at all important (in choosing your Medicare drug plan)?

		Single Most Important	Very Important	Not too Important	Not at all Important	DK/ Refused
A	The reputation of the company offering the plan					
B	The amount the plan charges in monthly premiums					
C	The specific drugs covered by the plan					
D	The amount the plan charges for each prescription					
E	A recommendation from someone you trust					

46. To the best of your knowledge, if seniors waited to enroll in a Medicare drug plan would they have to pay a "late enrollment penalty", or not?

	Yes	No	Don't Know	Refused
A				

47. To the best of your knowledge, if you are dissatisfied with your Medicare drug plan **can you change to a different plan whenever you want**, or do you have to wait for a specific period?

A	Can change to different plan	
B	Have to wait	
C	Don't know	
D	Refused	

48. Compared with how you got your prescriptions before, please tell me whether your Medicare drug plan is better, worse, or about the same in terms of each of the following. (READ AND RANDOMIZE). (READ FOR EACH ITEM) Compared with how you got your prescriptions without Medicare Part D, is your drug plan better, worse, or about the same in terms of (INSERT)...

		Better	Worse	Same	Don't Know	Refused
A	How much you pay for prescriptions					
B	The cost of your monthly premiums					
C	Getting the medicines you need					
D	Getting answers to your questions					

49. Compared to what you **paid for blood pressure drugs before Medicare Part D**, are you now saving money, paying more or paying about the same overall for your prescriptions?

	Saving money	Paying more	Paying about the same	Refused
A				

50. Would you say that you are **saving a lot of money**, or just a little?

	Saving a lot of money	Saving Just a little	Don't Know	Refused
A				

51. Would you say that you are **paying a lot more money**, or just a little more?

	Paying a lot more money	Paying just a little more	Don't Know	Refused
A				

52. Overall, what message would you send to policymakers in Washington? Would you say the Medicare Part D drug benefit (READ)

A	Is working well and no real changes are needed	
B	Could be improved with some minor changes	
C	Is not working and needs major changes	
D	Don't know	
E	Refused	

Thank you for completing this survey about blood pressure medication and for helping to improve the Medicare Part D policy. As mentioned before you will be receiving a seven day pill box as our thank you for participating.

If you would like to receive a copy of the survey results we will be happy to send them to you when the study is complete.

Wants report? Yes _____ No_____

Verify Address to send gift to:

Name: _____

Street Address: _____

City: _____ State: _____ Zip code:_____

APPENDIX IV: Senior Services of Southeastern Virginia Consent Letter

Senior Services of Southeastern Virginia

THE CENTER FOR AGING

November 7, 2008

Ms. Ann Marie Kopitzke, BBA, MPA, PhD(c)
1168 Bolling Avenue
Norfolk, VA 23508

Dear Ms. Kopitzke:

We are approving your request to utilize the Medicare Management Access database to develop a contact list for the purpose of dissertation data collection. Additionally, permission to contact enrollees to assess prescription drug plan enrollment and acquisition experiences is granted.

Letters of consent will be sent to Medicare elders, enrolled through Senior Services of Southeastern Virginia, for whom complete contact data is available. Data collection must be safeguarded utilizing HIPPA and IRB guidelines.

Results of data analyses must be shared with Senior Services of Southeastern Virginia (SSSEVA) to enhance medication education, assistance and enrollment efforts. Senior Services of Southeastern Virginia must be acknowledged in any publications or print media which arise from this research.

Sincerely,

John N. Skirven
Chief Executive Officer

Interstate Corporate Center, 6350 Center Drive, Bldg. 5, Suite 101, Norfolk, VA 23502-4107
Phone: 757-461-9481 · Fax: 757-461-1068 · E-Mail: services@ssseva.org · Web: www.ssseva.org

United Way

APPENDIX V: Sample Consent Letter

DATE

NAME
ADDRESS
CITY, STATE ZIP

Dear NAME,

As a follow-up to your Part D enrollment, we would like to invite you to be part of a research study that will help us to find out if Medicare's prescription drug discount benefit is working for you and if you are able to save any money.

If you are called, we will be asking questions about how you chose your Part D plan and whether you had any problems using the plan. There will also be a few questions about Extra Help and your opinions and experiences. We will also ask about your health status and how you get your blood pressure medicines. If you are willing to finish the administered survey, we will send you a seven day pill box as a thank you.

If you want to accept this invitation, please fill out and sign the reply card. If you want to call us to tell us you would like to be included in this study, please leave your name, administered number and the best days and times for you to be called at 757-461-9481 x7230.

If you have any questions about this study you may contact me at 757-683-6180. Thank you for your time.

Sincerely,

Ann Marie Kopitzke, BBA, MPA, PhD Candidate
Medication Education Coordinator

Please include me in your study. I am interested in being contacted for my opinions and experiences with Medicare Part D. I would also like to tell you about how I get my blood pressure medicines.

Printed Name_____

Signature_____

Date Administered_____

Good days and times to call _____

After you fill out and sign, please put this invitation reply card into the stamped, addressed return envelope and mail it back to us.

Thank you for your time.

VITA

Ann Marie Kopitzke

EDUCATION:

2009	Doctoral Degree of Philosophy, Health Services Research School of Community and Environmental Health, Health Sciences, Room 2112, College of Health Sciences, Old Dominion University, Norfolk, VA 23529
2002	Master Degree of Public Administration, College of Business and Public Administration, Old Dominion University, Norfolk, VA 23529
1987	Bachelor Degree of Business Administration, College of Business Administration, University of Wisconsin – Milwaukee, Milwaukee, WI Majors: Finance and Industrial Relations, Minors: Theater and Psychology

EXPERIENCE:

2003 – Present	Graduate Research Assistant/Teaching Assistant, Health Services Research, College of Health Sciences, School of Community and Environmental Health, Old Dominion University, Norfolk, VA 23529
2004 – Present	Medication Education and Database Coordinator, Senior Services of Southeastern Virginia, Norfolk, VA 23502

PUBLICATIONS:

Kopitzke, AM, Beard H, Plichta, SB, Benjamin R, Rutledge C, Garzon L. (2005). "Assessment of Nurse Practitioners Attitudes Towards the Elderly and Cultural Competence." Published in the proceedings of the 4th International Health Conference, May 2005, Athens, Greece.

INVITED PLATFORM PRESENTATIONS:

Kopitzke AM, Beard H, Plichta, SB, Benjamin R, Rutledge C, Garzon L. (2005). "Assessment of Nurse Practitioners Attitudes Towards the Elderly and Cultural Competence." 4th International Health Conference, May 2005, Athens, Greece

PEER REVIEWED PLATFORM PRESENTATIONS:

Kopitzke, AM, Karlowicz, KA, Plichta, SB. (2007). "An Assessment of FY 2006 Implementation of Part D for Southeastern Virginia." American Public Health Association Conference, November 3-7, Washington, D.C.

PEER REVIEWED POSTER PRESENTATIONS:

Kopitzke, AM, Karlowicz, KA, Plichta, SB. (2007). "An Assessment of FY 2006 Implementation of Part D for Southeastern Virginia." Virginia Public Health Association, April 20, Richmond, VA.

Kopitzke, AM, Karlowicz, KA, Plichta, SB. (2007). "An Assessment of FY 2006 Implementation of Part D for Southeastern Virginia." Academy Health Conference, June 1-4, Orlando, FL.

Kopitzke, AM, Karlowicz, K (2005). "Enrollment Efforts for Low-Income and Rural Seniors in the Medicare-Approved Drug Discount Card Program." American Public Health Association, Philadelphia, PA.

Kopitzke, AM, Karlowicz, KA. (2006). "Understanding Medicare Changes: Overcoming Enrollment Obstacles for Extra Help and Part D." American Public Health Association, Boston, MA.

LOCAL PRESENTATIONS

Kopitzke, AM, Karlowicz, K (2005). "Enrollment Efforts for Low-Income and Rural Seniors in the Medicare-Approved Drug Discount Card Program." Research Day, Norfolk, VA.

Kopitzke, AM, Karlowicz, KA. (2006). "Understanding Medicare Changes: Overcoming Enrollment Obstacles for Extra Help and Part D. "Research Day, Norfolk,VA.

HONOR SOCIETY

2008 – Present Golden Key International Honor Society

PROFESSIONAL MEMBERSHIPS

2007 – Present Academy Health

2005 – Present World Affairs Council

2008 – Present American Public Health Association

- Abstract Reviewer for Women's Health Caucus (2004)
- Public Health Student Caucus Campus Liaison (2003-2005)