

**THE MARYLAND STUDY ON  
PHYSICIAN EXPERIENCE WITH MANAGED CARE**

September 2001

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## EXECUTIVE SUMMARY

The Maryland Study on Physician Experience with Managed Care was funded through an appropriation by the Maryland General Assembly to the Maryland Department of Health and Mental Hygiene (DHMH). The purpose of this study was to conduct a comprehensive survey that measures the experience of physicians in the growing managed care environment and, in particular, to determine whether the experience of minority physicians differs from those of non-minority physicians. The UMBC Center for Health Program Development and Management developed and conducted the survey on behalf of DHMH.

The study involved surveying a sample of over 3,000 Maryland physicians likely to have had exposure to the managed care environment. The survey was conducted between July and November 2000 and yielded a response rate of 53 percent, which permitted statistically valid analyses.

This report contains survey findings regarding a range of subject areas with emphasis on differences between minority and non-minority physicians. Consistent with the General Assembly's direction, the subject areas covered include:

- Denial of physician's request to join the provider network of a managed care plan
- Termination of contract by the physician
- Racial/ethnic discrimination by a managed care organization
- Physician's satisfaction with level of income

Key findings from the survey analysis indicate that the majority of respondents report that:

- The proportion of managed care enrollees, patient load, and number of hours worked has increased
- Managed care has adversely affected the quality of healthcare and reduced access to specialists
- They have not been denied a membership request to join the provider network of a managed care plan
- They have not had a contract terminated by a managed care plan
- They have not voluntarily terminated a contract with a managed care plan
- They have not been discriminated against by an MCO because of race or ethnicity
- They are dissatisfied with income from medical practice

Additional analyses were conducted, taking into consideration physician race and other relevant factors. Statistically significant findings are outlined below. Compared to White physicians:

- African American and Asian physicians are more likely to be denied membership requests by a managed care plan
- African American physicians are more likely to have contracts terminated by a managed care plan
- Asian physicians are less likely to voluntarily terminate a contract with a managed care plan
- African American and Asian physicians are more likely to be satisfied with their level of income

## I. INTRODUCTION

In 1999, Maryland's State Legislature commissioned the Maryland Department of Health and Mental Hygiene (DHMH) to conduct a statewide study of Maryland physicians about their experience in the managed care environment. Conducting the study on behalf of DHMH, the UMBC Center for Health Program Development and Management developed the Maryland Study on Physician Experience with Managed Care (Physician Survey). This survey intended to measure demographics, specialty type, practice settings, and attitudes and perceptions on selected issues.

The focus of this report is two-fold: 1) to present Maryland physicians' impressions of managed care; and 2) to determine whether there are any racial or ethnic disparities with regards to the physician experience with managed care plans. Issues of particular interest to legislators and stakeholders are:

- Denial of physician's request to join the provider network of a managed care plan
- Termination of contract by a managed care organization
- Voluntary termination of contract by the physician
- Perceived racial/ethnic discrimination by a managed care organization
- Physician's satisfaction with level of income

An extensive literature review was conducted to determine the type and scope of previous research conducted on the physician experience. Few published studies exist to date about the physician experience with managed care in the context of race and ethnicity. The majority of studies focus on one of two topics: the physician and managed care, or the physician and racial/ethnic issues. Only one published study addresses the relationship between managed care and race/ethnicity of the physician.<sup>1</sup> The Physician Survey builds on this existing literature and provides a more comprehensive picture of how physicians are faring in a growing managed care environment.

The UMBC project team collaborated with key stakeholders in selecting survey topic areas and survey questions. Stakeholders nominated a representative from their organization to participate in the development of the survey. Key stakeholders and their respective representatives are:

- Reed Winston, M.D., MedChi Medicaid Managed Care Task Force
- Wallace R. Johnson, M.D., Monumental City Medical Society
- Michele D. Thomas, M.D., Prince George's County Society of Health Professionals
- Walter W. Shervington, M.D., National Medical Association

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<sup>1</sup> Mackenzie, E.R., Taylor, L.S., Lavizzo-Mourey, R. (1999). Experiences of Ethnic Minority Physicians with Managed Care: A National Survey. The American Journal of Managed Care, 5, 1251-1264.

In addition to providing input on survey design, the above-mentioned medical societies and groups helped to publicize the import of the study. Their valuable assistance is appreciated.

A Technical Advisory Committee (TAC) for the study was created to guide the UMBC project team and was composed of experts in the areas of cultural diversity, minority health, the physician-patient relationship, and research methodology. The members of the TAC are:

Wayne A. Beckles, LCSW-C  
Adjunct Faculty Member  
University of Maryland at Baltimore  
School of Social Work

Llewellyn J. Cornelius, Ph.D.  
Assistant Dean of Informatics,  
Associate Professor  
University of Maryland at Baltimore  
School of Social Work

Lisa Cooper-Patrick, M.D., M.P.H.  
Assistant Professor  
The Johns Hopkins University  
School of Medicine  
Department of Medicine

Marvin Mandell, Ph.D.  
Director of Policy Sciences, Professor  
University of Maryland, Baltimore County  
Department of Policy Sciences

The TAC assisted in the development of the survey instrument (see Appendix) and in establishing the statistical design. The UMBC project team is grateful for the valuable insight and peer review provided by the TAC.

This study of Maryland physicians is comprehensive with respect to content and intended sample. The study addresses a variety of subject areas and covers a broad range of physician specialties and forms of managed care. Subject areas included in the survey are:

- Practice characteristics
- Reimbursement levels
- Administrative requirements
- Physician-patient relationship
- Perceptions of managed care
- Managed care contracts
- Physician commitment and satisfaction

## **II. METHODOLOGY**

### **A. Sample**

Participation in the study was limited to physicians who were actively licensed and have had experience with managed care in the state of Maryland. Using data provided by the Maryland Health Care Commission,<sup>2</sup> 13,742 active physicians who were most likely to have managed care experience were identified. From this study population, a sample of 3,113 physicians was selected using a stratified sampling technique and over-sampling method in order to ensure adequate representation of all subgroups in the sample. The final sample consists of a balanced representation of physicians with the following racial/ethnic backgrounds:

- African-American (922)
- American Indian/Eskimo/Aleut (16)
- Hispanic (375)
- Asian (900)
- White (900)

Comprehensive in design, the study includes physicians from a broad range of specialties and subspecialties, and encompasses all forms of managed care (commercial managed care, Medicaid managed care, Medicare managed care, and managed care organizations such as HMOs, PPOs, POSs, and IPAs).

### **B. Data Collection**

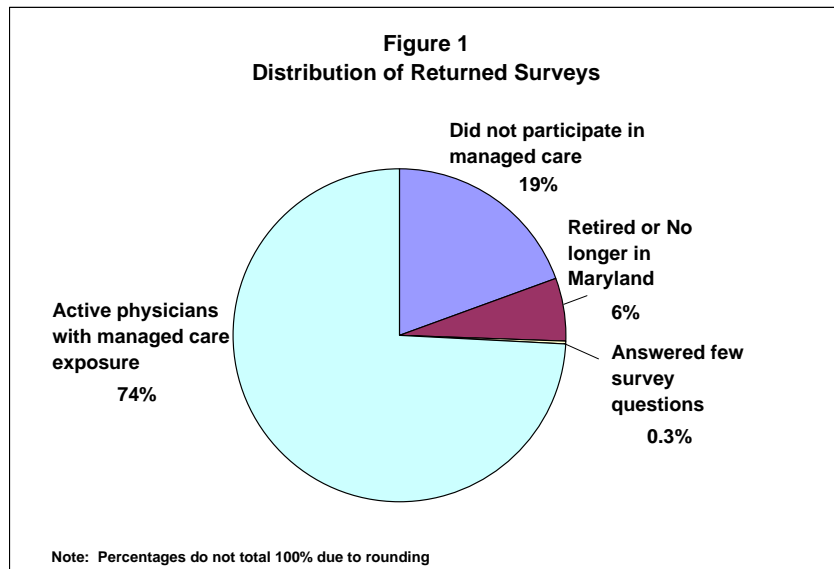
The surveys were mailed to physicians in July 2000 and collected through November 2000. Of the 3,113 surveys sent to physicians, 1,650 surveys were returned, representing a response rate of 53 percent. This level of response falls within the acceptable range of survey response rates and is more than sufficient to conduct statistical analyses and draw valid conclusions.

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<sup>2</sup> Data compiled from the Board of Physician Quality Assurance data file.

## C. Statistical Analysis

Figure 1 presents the distribution of returned surveys. At the time of the survey, 74 percent of the respondents participated in managed care, 19 percent did not participate in managed care, 6 percent had retired or no longer practiced in Maryland, and 0.3 percent answered only a few survey questions.



The remainder of the study focuses on those respondents who participated in managed care. Therefore, of the 1,650 returned surveys, 1,225 (74 percent) forms the basis for analysis.

Key outcome measures under study are:

- Denial of requests to join a provider network by a managed care plan
- Termination of contract initiated by the managed care plan or physician
- Discrimination of physicians due to race/ethnicity by an MCO
- Physician satisfaction with income

Each outcome is assessed using a single survey indicator. The outcome measures are examined using descriptive analysis and the logistic regression method. Descriptive analysis includes the frequency distribution of responses to survey questions. Logistic regression is a method for relating various explanatory variables to an outcome measure. By using logistic regression, it is possible to determine the amount of change in the outcome measure that is attributable to one of the explanatory variables while controlling for the effects of the other relevant variables. For example, in determining whether the key variable physician race is related to managed care plan termination of contract, other factors that may explain termination of contract besides race, such as practice type, physician specialty, etc., are held constant (i.e., controlled for). Controlling for these other relevant factors allows for the effect of race on termination of contract to be ascertained. Factors controlled for in the logistic regression analyses are:



- Contractual relationship with main practice (employee physician, sole owner, partner)
- Physician specialty (primary care physician, specialist)
- Practice type (solo, single-specialty group, multi-specialty group, staff or group model HMO, hospital or clinic, medical school)
- Board certification
- Physician age

Another factor, income from medical practice, was controlled for in the analysis of physician satisfaction with income.

To adjust for the over-sampling of minority groups, weighted data is used in the logistic regression analyses. The “Other” response category for control variables is omitted from logistic regression analysis because of the range of responses reported under this category. The “American Indian/Eskimo/Aleutian” category is omitted from both the descriptive and logistic regression analyses because of the extremely small sample size.

For purposes of this analysis, survey response choices are collapsed into fewer categories. Answers of “1-3 times” and “more than 3 times” are combined into one category, “at least once.” Answers of “strongly agree” and “somewhat agree” are described as agreeing, and “somewhat disagree,” and “strongly disagree” are described as disagreeing. Response categories ranging from “very satisfied” to “very dissatisfied” are collapsed in a similar manner. For the logistic regression analysis, the “neither satisfied nor dissatisfied” category is collapsed into the newly created dissatisfied category.

#### **D. Code of Ethics**

All aspects of the Physician Survey were guided, both in spirit and in execution, by the highest ethical standards of survey research. The study protocol was reviewed by the Institutional Review Board of both UMBC and DHMH. The survey project team was committed to upholding the following standards in conducting the study:

- Meeting the obligation to the study sponsors
- Protecting the anonymity of respondents, including respondents’ identity and/or any information that may compromise the confidentiality of the respondents
- Exercising due diligence in development of the survey instrument and the sampling design to assure the validity of results
- Taking every care in data collection, processing, and analysis to assure the reliability of results

### **III. FINDINGS**

The following discussion presents characteristics of respondents and general impressions of managed care. The primary focus of the analysis is the impact of managed care on the practice environment among respondents of different racial backgrounds.

### A. Characteristics of Physician Respondents

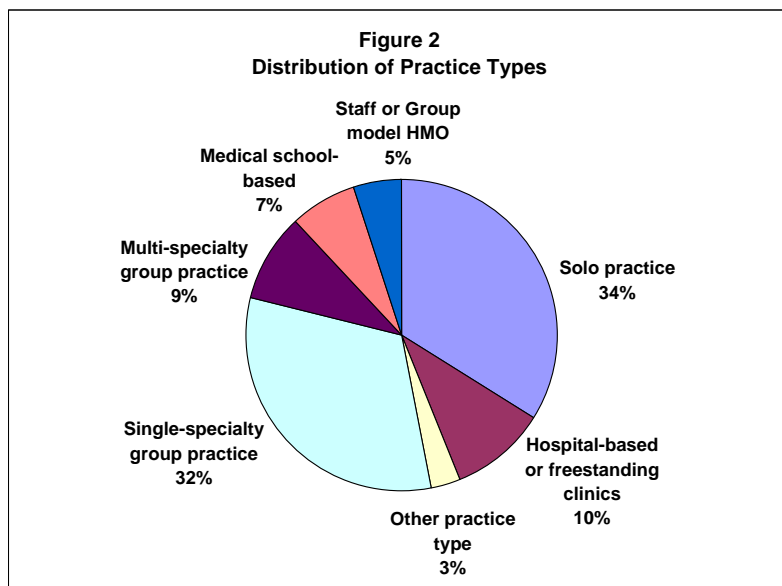
The majority of respondents (71 percent) was male and, on average, 50 years old. In terms of income from medical practice, survey respondents earned a wide range of incomes, as presented in the table below.

Income from Medical Practice	Percent
Less than 100K	22%
100K to 150K	36%
151K to 200K	20%
201K to 250K	10%
251K to 300K	5%
301K +	7%

The sample analyzed consists of:

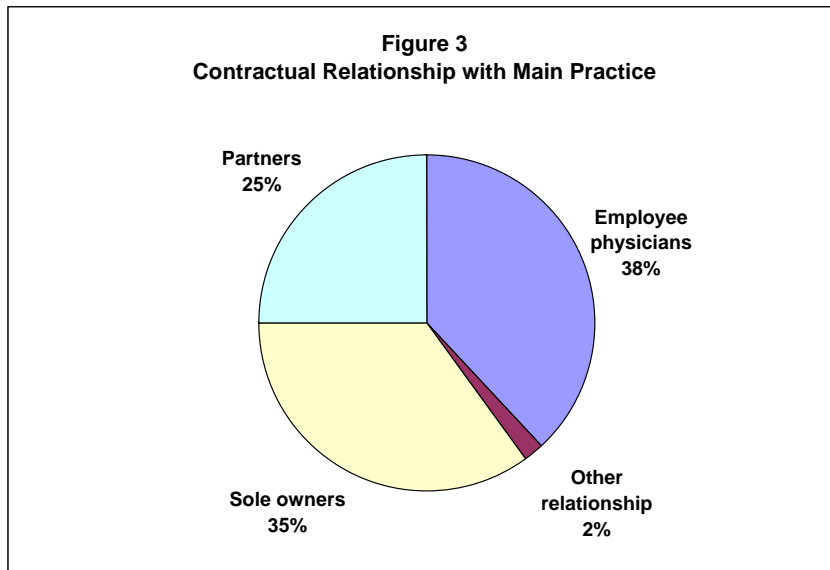
- 35 percent Whites
- 29 percent Asians
- 24 percent African Americans
- 12 percent Hispanics

As shown in Figure 2, most respondents are either in solo practice (34 percent), or single-specialty group practice (32 percent). The remaining physicians are in multi-specialty group practice (9 percent), staff or group model HMO (5 percent), hospital-based or freestanding clinics (10 percent), medical school-based (7 percent), or other practice type (3 percent). Eighty-six percent of respondents are board



certified in a primary specialty, while 14 percent are not. Forty-six percent of all respondents practice medicine as primary care physicians, and 44 percent as specialists.<sup>3</sup> The remaining ten percent identify themselves as “Other.”

As shown in Figure 3, most respondents are employee physicians (38 percent), followed by sole owners of a medical practice (35 percent) and partners in a medical practice (25 percent). Two percent of respondents report an “Other” contractual relationship with their main practice.



## **B. Impressions of Managed Care**

Physicians participating in the survey have broad exposure to the managed care environment with:

- 48 percent reporting more than half of their patient base enrolled with managed care organizations
- 65 percent indicating an increase in the proportion of managed care enrollees cared for over the past two years

Respondents report increases in the average number of patients seen daily and the average number of hours worked per week since the growth of the managed care market. In particular, more Hispanic and African American physicians experience these trends than other races:

- 62 percent of Hispanics and 65 percent of African Americans report an increase in patient load, compared to 55 percent of Whites and 50 percent of Asians
- 65 percent of Hispanics and 66 percent of African Americans report an increase in number of hours worked, compared to 54 percent of Whites and 55 percent of Asians

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<sup>3</sup> A primary care physician is defined as a physician whose primary specialty is family practice, general internal medicine, general pediatrics, general practice, general surgery, or obstetrics and gynecology. A specialist is defined as a physician whose primary specialty is psychiatry, radiology, pathology, emergency medicine, internal medicine subspecialty, pediatric subspecialty, or surgery subspecialty.

Overall, survey respondents do not believe that managed care has had a positive impact on healthcare:

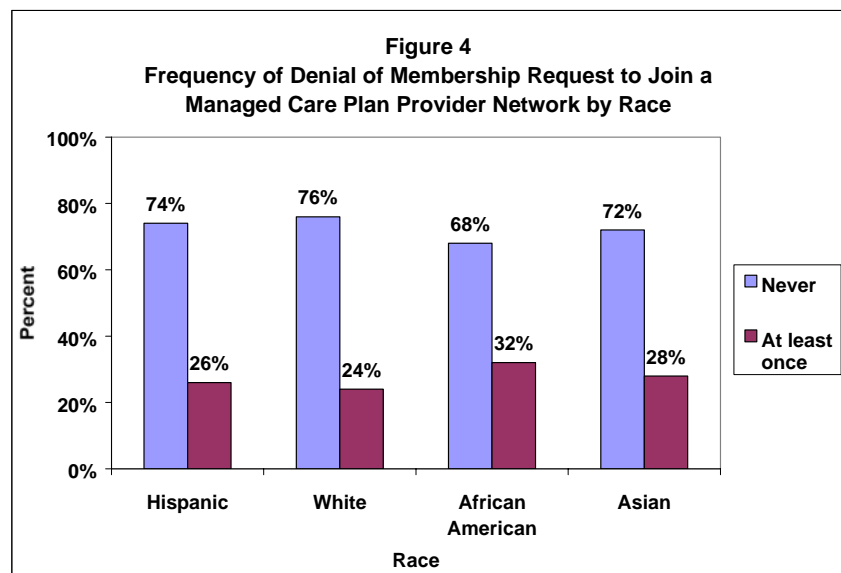
- Approximately half of all respondents do not believe that managed care has been effective at reducing costs
- More than 75 percent believe that managed care has adversely affected the quality of healthcare
- 86 percent believe that managed care has reduced access to specialists

### C. Physician Race/Ethnicity and the Managed Care Environment

Analysis of survey responses indicates managed care’s differential impact on physicians of diverse racial backgrounds. Statistical methods that control for influential variables, in addition to descriptive analysis of key issues, support this finding. Topics under study include MCO denial of request to join a provider network, termination of contract, perceived racial/ethnic discrimination by an MCO, and satisfaction with income.

#### MCO Denial of Membership Requests

The study documents two important findings regarding denials of membership requests to join a managed care plan’s provider network. First, most physician respondents (73 percent) have never been denied a request to join the provider network of a managed care plan. Second, the fraction of physicians who have been denied one or more membership requests to join a managed care plan

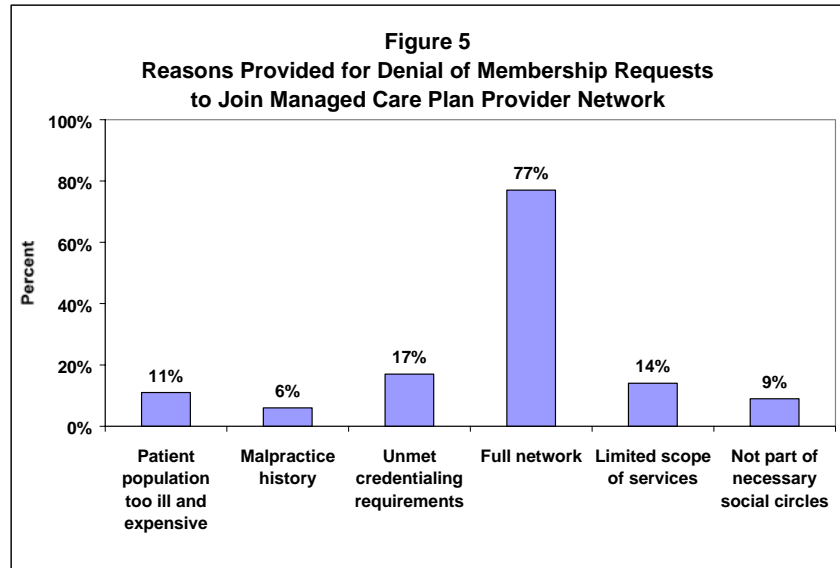


provider network differs by race (Figure 4). Thirty-two percent of African Americans, 28 percent of Asians, 26 percent of Hispanics, and 24 percent of Whites report denials of requests to join a managed care plan provider network. Controlling for other variables, it was determined that difficulty in securing contracts is influenced by physician race. All minority physicians are more likely than White physicians to experience denials of requests. The finding that African American and Asian physicians are more likely to be denied than White physicians is statistically significant.<sup>4</sup>

<sup>4</sup> Adjusting for other factors, there is a 15 percent difference between African Americans and Whites, and a 4 percent difference between Asians and Whites.

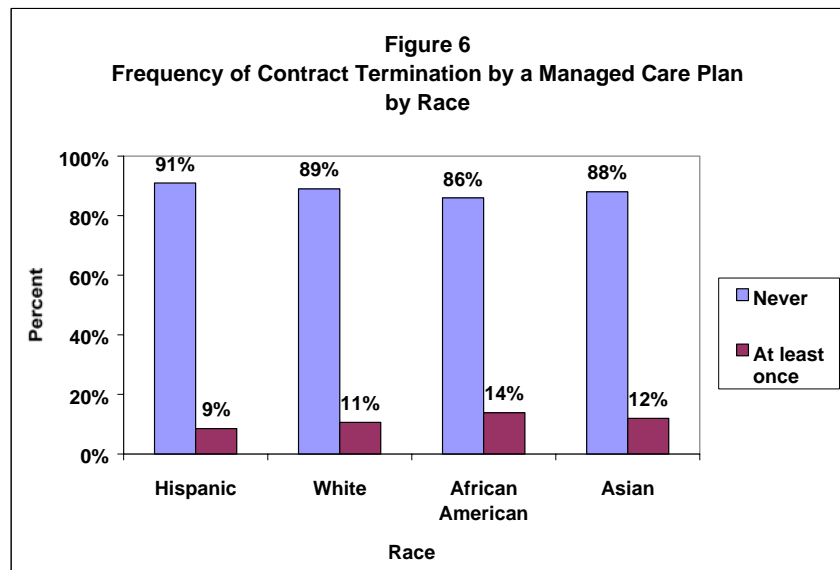
As shown in Figure 5, the most common reason given for denial of membership requests to join a managed care plan's provider network is that the network is full. The majority of respondents (77 percent) of all races report this as the most common reason given for denial of membership requests:

- 82 percent of African Americans
- 76 percent of Hispanics
- 79 percent of Whites
- 73 percent of Asians



### Termination of MCO Contract

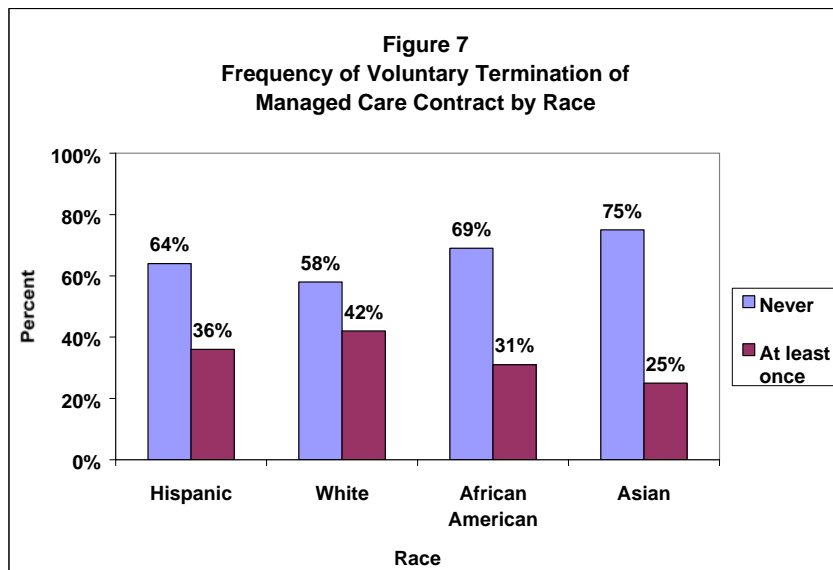
The majority of respondents (88 percent) report that they have never had a contract terminated by a managed care plan. Relatively small percentages of respondents of different racial backgrounds reported problems with termination (14 percent of African Americans, 12 percent of Asians, 11 percent of Whites, and 9 percent of Hispanics) (Figure 6).



Further analysis indicates that race is related to contract termination. Adjusting for other variables, it was determined that Asian physicians are more likely than White physicians to have contracts terminated, while Hispanic physicians are less likely to experience contract termination than White physicians. A statistically significant finding is that

African American physicians are more likely to have contracts terminated than White physicians.<sup>5</sup>

Similarly, the majority of respondents (66 percent) have never voluntarily terminated a managed care plan contract. However, as shown in Figure 7, 42 percent of Whites, 36 percent of Hispanics, 31 percent of African Americans, and 25 percent of Asians report voluntary termination of contract with a managed care plan at least one time. Controlling for other factors, African American



physicians are less likely than White physicians to have voluntarily terminated a contract, whereas Hispanic physicians are more likely than White physicians. A statistically significant finding is that Asian physicians are less likely than White physicians to have voluntarily terminated a managed care plan contract.<sup>6</sup>

Several reasons cited by most of the respondents for choosing to terminate their managed care plan contract are:

- Low levels of payment (95 percent)
- Delays in payment (92 percent)
- Administrative burdens (95 percent)
- Difficulty in doing what is in the best interest of patients (88 percent)
- Managed care plan contract did not result in more patients (55 percent)

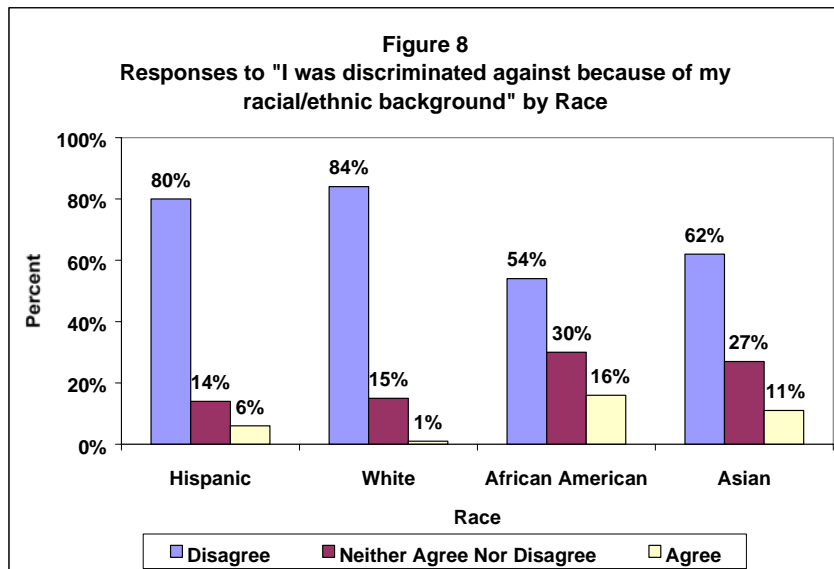
<sup>5</sup> The adjusted difference between African Americans and Whites is 5 percent when controlling for other factors.

<sup>6</sup> The adjusted difference between Asians and Whites is 12 percent.

## Perceptions of Racial/Ethnic Discrimination by MCOs

In gauging physician perceptions on managed care's impact on health care, respondents were asked whether they have been discriminated against by an MCO because of race or ethnicity. Seventy percent of respondents report that they have *not* been discriminated against due to racial or ethnic background. However, among those who report racial/ethnic discrimination by an

MCO, 16 percent are African American, 11 percent are Asian, 6 percent are Hispanic, and 1 percent are White (Figure 8).



## Satisfaction with Income from Medical Practice

The survey also gauged respondents' satisfaction with income generated from their medical practice. Overall, 34 percent of respondents are satisfied with their level of income. By race, 40 percent of Whites report satisfaction with their income compared to 35 percent of Hispanics, 31 percent of African Americans, and 29 percent of Asians. However, further analysis controlling for income level and other relevant factors indicates that Hispanic, African American, and Asian physicians are more likely than White physicians to be satisfied with their income. The finding that African American and Asian physicians are more likely to be satisfied with their income than White physicians is statistically significant.<sup>7</sup>

<sup>7</sup> There is a 23 percent adjusted difference between African Americans and Whites and a 40 percent adjusted difference between Asians and Whites.

#### **IV. CONCLUSIONS**

The Maryland Study on Physician Experience with Managed Care demonstrates that:

- Overall, most physicians believe that managed care has had a negative impact on the quality of healthcare
- Denial of applications to join a managed care plan's provider network and termination of contracts by an MCO are not pervasive problems
- More African American respondents perceive racial/ethnic discrimination than Asian and Hispanic respondents
- Most respondents are dissatisfied with the level of income from their medical practice

Moreover, statistically significant findings show that compared to White physicians:

- Those who report denial of membership requests to join a managed care plan's provider network are more likely to be African American or Asian
- Those who report MCO contract termination are more likely to be African American
- Voluntary termination of contract is less likely to occur with Asian physicians
- African American and Asian physicians are more likely to be satisfied with their income from their medical practice