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National Public Engagement Campaign on Chronic Illness — Physician Survey

Final Report

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A. INTRODUCTION

The Johns Hopkins Survey of Physicians Regarding Chronic Illness in the United States was one part of a larger Johns Hopkins Public Health campaign to raise awareness of and improve care for the chronically ill. The National Public Engagement Campaign on Chronic Illness seeks to move health care financing and delivery from an acute care model to a chronic care model by reforming government programs, medical education for doctors, and insurance benefits and payments. As part of this effort, MPR was contracted to administer a fifteen-minute questionnaire to a nationally representative sample of 1,500 physicians regarding care for the chronically ill. Key issues included doctors' perceptions of chronic illness, coordination of care for the chronically ill, adequacy of insurance coverage, need for additional education in medical school, and their professional satisfaction.

Following, we describe our approach to the project and the methodology employed by us to conduct this survey. We follow with a discussion of weighting procedures used to adjust the raw data collected. Finally, the appendices include all the frequencies, open-ended responses, and materials used to conduct the survey.

B. SURVEY METHODOLOGY

The sample design was to interview 1,500 randomly-selected physicians across the United States, specifically sampling half primary care physicians (PCP's) and half specialists. MPR worked with Johns Hopkins to refine a survey instrument (see Appendix A) that asked physicians their opinions about care for the chronically ill in the United States. The instrument was designed to be fifteen minutes long. MPR refined and pre-tested the instrument in August 2000 and prepared it for telephone administration in the fall. Hopkins paid a $25 incentive to respondents.

Interviewing began on November 8, 2000 and continued until June 1, 2001. Throughout data-collection, interviewers were monitored closely in order to gauge productivity and efficiency. The data-collection process itself was monitored on a daily basis to ensure that we could address any issues that arose.

1. Survey Staff and Training

Approximately thirty interviewers were hired across our two telephone centers, along with two supervisors and two monitors. Interviewers and supervisors completed a two-day training. The first day addressed the survey instrument and project-specific tactics for contacting physicians and gatekeepers and gaining their cooperation. The second day addressed learning how to conduct the interview with our CATI software. Interviewers practiced gaining cooperation of both gatekeepers and physicians and conducted mock interviews with each other.

2. Monitoring Performance and CATI Reports

We used both qualitative and quantitative measures to monitor interviewer progress. We assessed interviewer productivity by looking at reports of completion and refusal rates generated each day by our CATI software. We also listened to interviewers via a monitoring system that lets supervisors listen to interviews without respondents or interviewers being aware that they are

being monitored. Overall, we monitored approximately 5 percent of all interviews. All interviewers received continual feedback on their performance throughout the project.

3. Locating Physicians

The AMA masterfile from which we drew our sample of physicians contained phone numbers for just over half the sample (55 percent). We submitted the sample without phone numbers to MPR's locating department, which attempted to locate usable phone numbers using a variety of search methods. We successfully located 97 percent of all cases.

4. Sample Design and Releases

The basic sampling design was a stratified simple random sample using the sampling frame of physicians that was developed for round 3 of the physician survey for the Community Tracking Study (CTS). Physicians were eligible if they were deemed eligible for the CTS physician survey. We selected approximately equal numbers of primary care physicians (PCPs) and specialists (non-PCP). For sample selection, a physician was classified as a PCP based on the definition used in the CTS physician survey and the classification used for the round 3 sample. The sample also had an approximate proportional allocation by gender, age, and geographic region.

In order to complete 1,500 interviews, we initially released 1,500 names from our sample at the start of data-collection. In January, we released approximately 800 names to bring the total release to 2,304—enough sample to yield 1,500 interviews. As we came across ineligible physicians (see next section for reasons for ineligibility), our pool of physicians decreased and we were able to reach a higher response rate (71 percent) by completing fewer cases. In all, we completed interviews with 1,238 eligible physicians.

5. Reasons for Non-Response

Of the physicians who did not complete an interview (whether they were eligible or ineligible) by the end of the field period (667), the largest proportion were refusals (414), which represents 62 percent of these non-respondents. The second largest proportion (111), which represents 17 percent of the non-respondents, were cases that we had worked and could not complete by the end of the field period for a variety of reasons. For the most part, these were the physicians for whom we had made multiple attempts to contact over a period of 6 months. The majority of the remaining 21 percent of cases, were either unlocatable (67) or were physicians who did not have a name or associated contact information in our sample frame from the AMA masterfile (66). We therefore did not attempt to locate or contact these sample members because there was no identifying information. The remaining 9 respondents were either ill/impaired or had a language barrier.

6. Procedures for Contacting Physicians and Refusal Conversion

Before we contacted physicians, we sent them an advance letter with a fact sheet (see Appendix B) that described the study and notified them that we would call in a few days. We began contacting physicians approximately three to five days after receipt of the advance letter in order to give them just the right amount of time to read the letter but not forget it. We sent advance letters twice, before each of our two sample releases. Interviewers continued to contact physicians' offices to complete interviews. During the middle of the field period, we had reached a stage in which there were many refusals and not enough sample to continue our effort. We then launched a refusal-conversion effort. We built an experiment into the refusal conversion effort in which we pre-paid half of the respondents whom we selected for the refusal experiment. The other half of the respondents did not receive a prepayment. Before contacting all individuals in our refusal experiment, we sent them refusal-conversion letters asking them to

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change their minds and participate in the research (see Appendix C). We again began to contact these individuals after approximately three days. Of the 247 cases that had been in our experiment, we successfully completed 93 cases (38 percent); 136 cases remained refusals (55 percent), and the remaining cases (18) were either ineligible or could not be completed during the field period. Pre-paying doctors did not have a significant effect on whether they completed the interview or not.

In addition to cases that we randomly selected for the refusal experiment, we began contacting refusals who were not in the experiment. These refusals did not receive a refusal-conversion letter but were called directly. Of the 352 cases that were not in the experiment, 85 completed the interview (24 percent); 248 remained refusals (70 percent) after this attempt, and the remaining cases (19) were either ineligible or could not be located.

7. Data Editing and Open-Ended Responses

Data from the survey needed no cleaning because our CATI software automatically imposed proper logical ranges during the interviewing process. These data were imported into SAS. We reviewed frequencies (see separate file) and checked them for face validity. We found no cases that had out-of-range values or logical inconsistencies. We produced files with "other-specify" answers and verbatim responses to two questions (A3 and D2) that were coded by interviewers during interviews (see separate file). These verbatim responses can be compared with the coded responses by the client for accuracy and recoded if so desired.

C. LOCATION AND RESPONSE ANALYSIS

1. Overview

In all surveys using a list frame, some sampled units (physicians in this case) cannot be located and some that are located do not respond. In this survey, 67 (2.9 percent) of the sample of 2,304 physicians could not be located and of the 2,237 located physicians, 1,637 (73.1 percent) responded. The responding physicians included 1,238 eligible physicians and 399 physicians that were ineligible. Ineligible physicians included physicians who were

- Residents or fellows

- Worked less than 20 hours a week in direct patient care

- Deceased or retired

- Practicing outside the U.S.

- A federal or state employee

- In an ineligible specialty

The overall unweighted response rate was 71.1 percent (1,637 / 2,304 sampled).

TABLE 1

RESPONSE SUMMARY
(Unweighted Percentages)

Status	Count	Overall Percent	Percent of Located Physicians	Percent Eligible
Total	2,304	100.0	100.0	100.0
Complete	1,637	71.1	73.1	
Eligible	1,238	53.7	55.3	75.6
Ineligible	399	17.3	17.8	24.4
Refusal	600	26.0	26.8	
Unlocated	67	2.9		

SOURCE: MPR Computations.

The following text provides a discussion of the weight adjustment procedure using logistic regression propensity model. After this is the specific information on the adjustments for this survey.

2. Logistic Propensity Models For Nonresponse Adjustments

The purpose of nonresponse adjustment to sampling weights is to reduce the potential for bias associated with nonresponse. If non-response to a survey is completely random, then weighted estimates of means would be unbiased and nonresponse adjustment would not be required. For estimating totals, however, a single adjustment still would be needed to inflate a weighted total to account for the proportion of physicians that did not respond. However, nonresponse is rarely completely random, and patterns can be ascertained about characteristics of sampled individuals, such as physicians, who do or do not respond. For the Physician Survey, the concept underlying nonresponse adjustments is to find groupings of physicians that respond with a similar probability and to compute an adjustment value for each of these groupings. The adjustment factors are simply the inverse of the response rate for physicians in that grouping.

The most common method for computing these nonresponse adjustments is to form mutually exclusive classes of physicians that seem to have the same response probability, or propensity[1]. A weighted response rate is computed independently in each class and the inverse of the response rate is the adjustment factor. A key determinant in developing these weighting classes is the availability of information for both respondents and nonrespondents. In many surveys, limited information is available beyond that used for sampling strata. However, for

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[1] Brick, JM and G Kalton (1996) "Handling missing data in survey research" *Statistical Methods in Medical Research* 5, 215-238

nearly all sampled physicians, selected demographic and practice characteristics are available from the AMA and AOA files that were used to construct the sample frame.

In the weighting class nonresponse adjustment procedure, the mutually exclusive weighting classes need to contain a sufficient number of physicians so that the estimate of the weighted response rate is stable. The usual criterion is that 20 or more cases should be in a weighting class so that the variance of the response rate is sufficiently small to yield an accurate and stable estimate[2]. Weighting classes are combined if the number of cases is less than this count. However, the purpose of forming weighting classes is to group physicians with similar characteristics and response probabilities to reduce the potential for bias, so combining weighting classes may reduce some of the value of this approach.

Logistic regression modeling for the probability to respond is an extension of the weighting class approach. The predicted value from the model is the probability that a particular physician would respond (the response propensity) so the inverse of the response propensity is essentially equivalent to the inverse of the weighted response rate estimated in the weighting class method (if the same variables are used in the two methods)[3].

Logistic propensity modeling has three major advantages over the weighting class approach. First, mutually exclusive classes are not needed. The logistic model can use categorical as well as continuous data as independent variables and interactions among these variables can be included in this model. Second, the weighted response rate is a model-based estimate that utilizes information from all physicians, and not just the physicians with similar characteristics

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[2] Assuming a sample size of 20 implies a confidence interval of ± 0.20 for a response rate, r, around 0.60 (0.40 to 0.80) where the variance is estimated by $r * (1 - r)/ 20$.

[3] Iannacchione VG, JG Milne, and RE Folsom (1991) "Response Probability Weight Adjustment Using Logistic Regression". *Proceedings of the American Statistical Association, Section on Survey Research Methods*, 1991, pp. 637-642

(that is physicians in a specific weighting class). In the modeling process, alternative variables and scalings of variables can be tested for the best ability to predict the propensity to respond. Third, the predicted response propensity is estimated using a model and the full sample of physicians, so the variance for the response propensity will generally be substantially less than the variance from a comparable weighting-class approach.

A disadvantage of the logistic propensity modeling is that the predicted propensity value can be small and therefore the inverse of this value would be large. A large adjustment value can result in greater variation in the final analysis weights, but various methods of smoothing the adjustments may be used to reduce the impact of large values on weights. Also, the extreme model predictions can be largely avoided by judicious variable construction. In the case of the categorical independent variables, for example, we combine categories with very few observations—similar to the constructions of the weighting classes[4].

To summarize, the two approaches will have nearly identical results if the independent variables used in a logistic propensity model exactly match the mutually exclusive classes used in the weighting class procedure. In this case, the predicted response propensity values would be identical to the weighted response rates in the weighting class approach. The adjustment is simply the inverse of the predicted response propensity or the weighted response rate. However, this is rarely the case and the advantages of modeling the propensity of response will usually outweigh its disadvantages.

For the current survey, the adjusted weights were computed in three steps and three sets of weights were computed. Two weighted logistic regression models were used to compute propensity scores: one for location and one for interview response. The adjustment factor was

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[4] Little RJA (1986) "Survey Nonresponse Adjustment for Estimates of Means" *International Statistical Review* 54 pp. 139-157

the inverse of the propensity score (that is the inverse of the predicted probability to locate a physician and then the inverse of the predicted probability of a located physician to respond). A poststratification adjustment was then used to rescale the weighted counts to the original sampling frame counts. In the following sections, we describe the main findings of the location and response analysis to illustrate various factors (type of practice, demographic factors, medical specialty, age and gender) affecting our ability to locate and interview them.

3. Factor Coding For Location And Response Models

For the computation of the survey weights, we divided the sample into three groups:

1. Physicians who could not be located

2. Physicians who responded including:
   a. Physicians who were eligible and completed the survey
   b. Physicians who were not eligible (resident or fellow, less than 20 hours a week of direct patient care, deceased, retired, practicing outside the U.S., federal or state employee, ineligible specialty)

3. Physicians who refused to complete the survey and physicians with a language barrier or were ill during the data collection period (and others that were presumed eligible but not interviewed)

For the response analysis, we classified eligible and ineligible physicians as respondents since these physicians provided full information. We classified physicians who refused to complete the survey and the physicians with a language barrier or were ill during the data collection period as refusals. The first weighted logistic regression model adjusts the weights for the 2.9 percent of physicians who were not located. The second weighted logistic regression model adjusts the weights for the 26.8 percent non-interviewed among the located eligible physicians.

In the logistic regression propensity models, we used the stratification factors (PCP/specialist and gender) and selected additional factors that were provided in the AMA and AOA databases. The full list of factors used were:

1. PCP status (PCP or specialist)

2. Gender

3. Age:
   a. For Location: 3 main age groups (under 35, 35-39 and 40 plus)
   b. For Response: 5-year age categorization (under 35, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 70-74, 75 plus).

4. Geographic location of the physician (state from the preferred mailing address):
   a. For Location: the four Bureau of the Census geographic regions (Northeast, North Central, South and West)
   b. For Response, the nine Bureau of the Census geographic divisions

5. Urban and rural practice location: state and county of the preferred mailing address and the Bureau of the Census definitions of metropolitan statistical areas

6. Specialty: Cardiologist, General Practice/Family, Internal Medicine, Neurology, Pediatrics, Psychiatry and Surgery

7. School of Graduation: U.S., western hemisphere except U.S., Europe and other

8. Type of practice: office base, hospital base, or other or unknown

In Table 2, we show the location and response rates for these factors.

TABLE 2

PHYSICIAN LOCATION RATES AND RESPONSE RATES
FOR SELECTED FACTORS

	Total Persons Attempted	Number of Persons Located	Percent Persons Located	Number Responded	Percent Responded (Among Located)
PCP					
Specialist	1,150	1,116	97.0	804	72.0
PCP	1,154	1,121	97.1	833	74.4
Gender					
Male	1,767	1,723	97.5	1,230	71.3
Female	537	514	95.7	407	78.9
Design Strata					
PCP–Male	824	805	97.7	580	72.1
PCP–Female	330	316	95.8	253	80.1
Specialist–Male	943	918	97.4	650	70.8
Specialist–Female	207	198	95.6	154	77.6
Age					
Less than 35	206	195	94.6	163	83.1
35-39	330	318	96.3	241	76.0
More than 40	1,768	1,724	97.5		
40-44				271	72.2
45-49				236	62.3
50-54				221	70.1
55-59				130	63.6
60-64				129	75.4
65-69				100	82.4
70 or more				146	90.1
Census Region/Division					
North East	577	553	95.6		
NE New England				108	75.4
NE Atlantic				307	74.2
North Central	507	495	97.8		
NC East				267	73.0
NC West				88	67.2
South	747	731	98.0		
S Atlantic				321	73.0
S East Central				70	68.7
S West Central				140	73.0
West	473	458	96.8		
W Mountain				110	75.4
W Pacific				226	72.7

TABLE 2 *(continued)*

	Total Persons Attempted	Number of Persons Located	Percent Persons Located	Number Responded	Percent Responded (Among Located)
Specialty					
Cardiologist	81	80	98.8	44	55.0
Gen Practice /Family Med	801	773	96.5	572	74.1
Internal Medicine	658	639	97.0	458	72.0
Neurology	41	37	90.2	25	67.6
Pediatrics	337	332	98.6	260	77.0
Psychiatry	140	136	97.1	111	81.4
Surgery	246	240	97.6	167	69.6
Urban/Rural					
Urban	2,046	1,984	97.0	1,446	72.6
Rural	258	253	98.2	191	76.0
Type of Practice					
Office based	1,948	1,901	98.0	1,373	72.1
Hospital based	161	154	95.9	113	73.0
Other	195	182	93.0	151	82.1
Location of Med School					
U.S.	1,758	1,720	97.9	1,263	73.5
Western Hemisphere Except U.S.	145	138	94.5	99	70.6
Europe	103	100	96.8	75	73.6
Other	298	279	93.6	200	71.0
PCP/Specialist and specialty					
Specialist–cardiologist	81	80	98.8	44	55.0
Specialist–Gen Practice	292	282	96.6	211	74.7
PCP–Gen Practice/Family	509	491	96.5	361	73.6
Specialist–Internal Medicine	218	210	96.3	155	73.8
PCP-Internal Medicine	440	429	97.5	303	70.7
Specialist–Neurology	41	37	90.2	25	67.6
Specialist–Pediatrics	133	132	99.2	92	69.7
PCP—Pediatrics	204	200	98.0	168	84.0
Specialist–Psychiatry	139	135	97.1	110	81.3
PCP–Psychiatry	1	1	100	1	100.0
Specialist–Surgery	246	240	97.6	167	69.6

TABLE 2 *(continued)*

	Total Persons Attempted	Number of Persons Located	Percent Persons Located	Number Responded	Percent Responded (Among Located)
PCP/Specialist by Location of Med. School					
Specialist–U.S.	869	847	97.45	623	73.6
PCP–U.S.	889	873	98.2	640	73.4
Specialist–Western Hemisphere	73	72	98.6	55	76.4
PCP- Western Hemisphere	72	66	91.7	44	66.6
Specialist–Europe	62	61	98.4	49	80.3
PCP-Europe	41	39	95.1	26	66.4
Specialist–other	150	141	94.0	106	75.2
PCP–other	148	138	93.2	94	68.0
Gender by Region/Division					
Male-North East	427	410	95.7		
Male–NE New England				73	74.6
Male–NE Atlantic				35	77.2
Female–Northeast	150	143	95.1		
Female–NE New England				225	71.7
Female–NE Atlantic				82	82.6
Male–North Central	388	379	97.7		
Male–NC East				200	71.0
Male–NC West				67	79.8
Female–North Central	119	116	97.8		
Female–NC East				65	64.4
Female–NC West				23	76.6
Male–South	591	583	98.8		
Male–S Atlantic				240	71.7
Male–S East Central				81	77.3
Male–S West Central				61	67.3
Female–South	156	148	94.8		
Female-S Atlantic				9	82.3
Female-S East Central				112	70.8
Female-S West Central				28	84.3
Male–West	361	351	97.2		
Male–W Mountain				86	73.1
Male–W Pacific				24	86.1
Female–West	112	107	95.5		
Female–W Mountain				168	72.8
Female–W Pacific				58	72.4

TABLE 2 *(continued)*

	Total Persons Attempted	Number of Persons Located	Percent Persons Located	Number Responded	Percent Responded (Among Located)
PCP Specialist by Region/Division					
PCP–North East	302	285	94.4		
PCP–NE New England				61	78.5
PCP–NE Atlantic				47	70.2
Specialist–North East	275	268	97.5		
Specialist–NE New England				145	70.0
Specialist–NE Atlantic				162	80.7
PCP-North Central	240	236	98.3		
PCP-NC East				129	71.6
PCP-NC West				138	75.0
Specialist–North Central	267	259	97.0		
Specialist–NC East				38	67.5
Specialist–NC West				50	66.9
PCP–South	373	368	98.7		
PCP–S Atlantic				166	71.8
PCP–S East Central				155	74.9
PCP–S West Central				40	71.6
Specialist–South	374	363	97.1		
Specialist–S Atlantic				30	63.8
Specialist–S East Central				56	69.1
Specialist–S West Central				84	77.1
PCP–West	235	227	96.59		
PCP–W Mountain				60	75.2
PCP–West Pacific				50	75.7
Specialist–West	238	231	97.06		
Specialist–W Mountain				109	74.0
Specialist–W Pacific				117	71.0

4.   Location Weight Adjustments

In the location model, the primary factors were age (less than 35 years), the specialty category of neurology, and being a U.S. medical school graduate. While gender had a noticeable effect in locating a physician, an interaction between gender and geographic region seemed to account for a major portion of this. That is gender by region showed an interaction in the location rates especially in the South and West. The location rate for males in the South is 98.8 percent, while the female rate is only 94.8 percent. In the West, the comparable rates are 97.2 percent and 95.5 percent. In the Northeast and North Central the rates are very similar by gender. The PCP or specialist status does not exhibit any effect in the location of the physicians, but we included it in the model because the interaction between PCP/specialist status and school of graduation was significant. For example, the location rate for specialists who graduated from a medical school located in the western hemisphere, excluding the U.S., is 98.6 percent while the primary care physicians who graduated from similar schools had a location rate of only 91.7 percent. Overall, the location rate differed by the medical school location: 97.9 percent for U.S. medical schools, 94.5 percent for schools in the western hemisphere, excluding the U.S., 93.6 percent for schools in Asia, Africa and Oceania, and 96.8 percent for schools in Europe.

For physicians below the age of 35, the location rate is 94.6 percent, for those between 35-40 years it is 96.3 percent, while for those above 40 years the location rate is 97.5 percent. The physicians above 40 years have been grouped together because they had similar location rates. Other findings are:

- Physicians in the Northeast are harder to locate (95.6%) than the physicians in the South (98%)

- Rural physicians are easier to locate (98.2 percent) than the urban physicians (97.0 percent)

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- The specialty of the physician is another significant factor, the neurologists have a location rate of 90.2 percent, while the cardiologists have a 98.77 percent location rate

A weighted logistic regression model with these factors is used to adjust for the non-located physicians. Each located physician is assigned a location propensity score, which is the probability of being located. The inverse of the propensity score is our location adjustment factor. The new weights are the product of the sample weights and the location adjustment factor.

Table 3 shows the results of the weighted logistic regression for the location model. The Hosmer and Lemeshow goodness of fit test statistic has a value of 5.532 with a p-value of 0.70 indicating a good fit for the location model. The results show that it is more difficult to locate young physicians, physicians in the South and West (especially female physicians), cardiologist, physicians in urban areas, and PCPs who obtained their degree in a medical school in the western hemisphere, excluding the U.S., than physicians with other characteristics.

TABLE 3

LOGISTIC REGRESSION RESULTS FOR LOCATION STATUS

Factors	Coefficients	Standard Error	t-test	p-value
Intercept	2.82	0.827	3.41	0.001
PCP/Specialist (Specialist) [1]	0.119	0.500	0.24	0.81
Gender (Female)	0.329	0.579	0.57	0.57
Age (40 or older)				
Less than 35	-0.929	0.376	-2.47	0.0137
35-39	-0.439	0.358	-1.22	0.2208
Census Region (West)				
Northeast	-0.085	0.617	-0.14	0.8906
North Central	0.735	0.767	0.96	0.338
South	-0.232	0.621	-0.37	0.7083
Specialty Category (Surgery)				
Cardiologist	0.761	1.076	0.71	0.4796
General Practice	-0.315	0.488	-0.65	0.5187
Internal Medicine	-0.022	0.526	-0.04	0.9673
Neurology	-1.118	0.638	-1.75	0.0799
Pediatrics	0.848	0.635	1.34	0.1818
Psychiatry	0.215	0.679	0.32	0.7511
Urban/Rural (Rural)	-0.443	0.498	-0.89	0.3741
Medical School Location (Asia/Africa)	.			
U.S.	1.055	0.424	2.49	0.0129
Western Hemisphere, Except U.S.	1.558	1.056	1.48	0.1403
Europe	1.325	1.092	1.21	0.225
PCP Status/ Medical School Interaction				
PCP / U.S.	0.32	0.579	0.55	0.5806
PCP / Western Hemisphere	-2.011	1.191	-1.69	0.0916
PCP / Europe	-0.85	1.336	-0.64	0.5248
Gender and Geo Region Interaction				
Male / Northeast	-0.192	0.746	-0.26	0.7972
Male / North Central	-0.367	0.902	-0.41	0.6836
Male / South	1.183	0.784	1.51	0.1318

[1] Reference level is in the parenthesis.

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5. Weight Adjustments for Nonresponse

In the response model, the primary factors were the specialty category of cardiology, age (70 years or more), type of practice, and gender. While PCP/specialist had a noticeable effect in predicting response, the interaction between PCP and specialty, and PCP and division seemed to account for a major portion of this.

The PCP in the response analysis is a significant predictor with 72 percent of respondents among the specialists and 74.4 percent among the primary care physicians. We can observe a large difference in the response rates among the PCP and specialists depending on the specialty. For example pediatricians that were specialists (69.7 percent) and PCP pediatricians (84 percent). The response rates among specialties vary from 55 percent for cardiologists to 81.4 percent for psychiatric physicians.

Gender is also a significant factor in this model with a higher response rate for women (78.9 percent) than for men (71.3 percent). The age is another significant factor, but it does not follow the same pattern as the location rates. It was not possible to group the physicians in only three different groups given the rates are not similar for the different ages. We noticed a response rate of 62.3 percent for physicians among 45 to 49 years of age and a 90.1 percent for those above 70 years.

The response rates did not differ significantly by Census regions. But taking into account the divisions, which are subgroups of regions, we did see different rates among primary care physicians and specialists in some divisions (for example in the North East Atlantic 80.7 percent of specialists responded but only 70.2 percent of the primary care physicians).

The type of practice is a significant factor for the response model with rates ranging from 72.1 percent for the office-based physicians to 82.1 percent for physicians with unknown practice type classification.

A weighted logistic regression model with these factors is used to adjust for the non-respondents. Each respondent is again assigned a response propensity score, which is the predicted probability of responding. The inverse of this propensity score is the non-response adjustment factor. The new weights are the product of the location weights and the non-response adjustment factor.

Table 4 shows the results of the weighted logistic regression for the respondents. The Hosmer and Lemeshow goodness of fit test statistic had a value of 10.3 with a p-value of 0.25 indicating a good fit for the response model. The results show that the physicians who refuse to answer the interview are mainly specialist, males, cardiologist and office and hospital based physicians.

6. Post Stratification Adjustments

The purpose of the poststratification adjustments is to have the sum of the fully adjusted weights equal the population counts in the sampling frame. We used the sampling design strata (gender and PCP or specialist) as the poststratification classes. The adjustments made in the poststratification step are very small as shown in table 5. For four physicians, the location and response adjustments resulted in relatively large sampling weights and these would have unduly inflated the sampling variance. These four weights were trimmed and accounted for in the poststratification adjustment.

TABLE 4

POST STRATIFICATION ADJUSTMENTS BY STRATA

Strata	Unadjusted Weighted Count	Frame Count	Adjustment Factor
PCP–male	147,502.3	147,507	1.00003
PCP–female	59,431.9	58,363	0.98201
Specialist–male	243,113.8	243,652	1.00221
Specialist–male	53,159.6	53,692	1.01002

20

TABLE 5

LOGISTIC REGRESSION RESULTS FOR RESPONDENT STATUS

Factors	Coefficients	Standard Error	T-test	P-value
Intercept	2.926	0.419	6.98	0
PCP/Specialist (Specialist)	2.798	1.076	2.6	0.0094
Gender(Female)	-0.357	0.132	-2.71	0.0067
Age (70 or older)				
Less than 35	-0.812	0.341	-2.38	0.0175
35-39	-1.186	0.302	-3.92	0.0001
40-44	-1.337	0.292	-4.59	0
45-49	-1.728	0.287	-6.02	0
50-54	-1.373	0.294	-4.67	0
55-59	-1.696	0.304	-5.58	0
60-64	-1.128	0.322	-3.5	0.0005
65-69	-0.694	0.358	-1.94	0.053
Division (W Pacific)				
NE New England	0.137	0.34	0.4	0.6862
NE Atlantic	-0.235	0.249	-0.94	0.3455
NC East	-0.054	0.258	-0.21	0.8339
NC West	-0.313	0.358	-0.87	0.3822
S Atlantic	-0.116	0.246	-0.47	0.6383
S East Central	0.008	0.363	0.02	0.9815
S West Central	-0.116	0.314	-0.37	0.7108
W Mountain	0.197	0.332	0.6	0.5515
Specialty (Surgery)				
Cardiologist	-0.552	0.265	-2.08	0.0376
Gen Practice/ Family Medicine	0.257	0.204	1.26	0.2088
Internal Medicine	0.202	0.214	0.94	0.3449
Neurology	-0.094	0.385	-0.24	0.8082
Pediatrics	-0.067	0.243	-0.27	0.784
Psychiatry	0.575	0.279	2.06	0.0397
Practice Location (other)				
Office based	-0.441	0.221	-2	0.0459
Hospital based	-0.4	0.293	-1.37	0.1723
Interaction between PCP and Division				
PCP–NE New England	-0.226	0.472	-0.48	0.6318
PCP–NE Atlantic	0.708	0.356	1.99	0.0465
PCP–NC South	0.286	0.358	0.8	0.425
PCP–NC West	0.215	0.472	0.46	0.6491
PCP–S Atlantic	0.325	0.343	0.95	0.3436
PCP–S East Central	-0.227	0.52	-0.44	0.6628
PCP–S West Central	0.487	0.43	1.13	0.2568
PCP–W Mountain	0.161	0.479	0.34	0.7363
Interaction between PCP and Specialty				
PCP–Gen Practice/Family Medicine	-3.252	1.087	-2.99	0.0028
PCP–Internal Medicine	-3.283	1.094	-3	0.0027
PCP–Pediatrics	-2.299	1.113	-2.07	0.0389

APPENDIX A

QUESTIONNAIRE

PHYSICIAN SURVEY REGARDING
CHRONIC ILLNESS IN THE U.S.

GATEKEEPER INTRODUCTION: Hello, my name is _____. I am calling from Mathematica Policy Research on behalf of Johns Hopkins University. I am trying to reach Dr. <auto fill>.

IF NECESSARY, ADD: Johns Hopkins University is conducting an important study on the obstacles that physicians and chronically ill patients face.

(CLICK SCROLL BAR FOR MORE TEXT)

IF NECESSARY, ADD: We are just going to conduct an interview with the doctor. The survey generally takes 15 minutes. Because we understand that the doctor's time is valuable, we are offering [him/her] $25.

PHYSICIAN INTRODUCTION: Hello, my name is _____. I am calling from Mathematica Policy Research on behalf of Johns Hopkins University. Johns Hopkins University is conducting an important study to gather information on the obstacles that physicians and chronically ill patients face. Participation in this important study will help policy makers affect programs and improve the quality of care for chronically ill people. The survey only takes about 15 minutes. Because we understand how valuable your time is, we are offering you $25.

Begin Time: _____

Screener

1. Do you provide at least 20 hours of direct patient care during a typical week? Direct patient care includes time spent seeing patients, performing surgery or providing other patient related care services.

    > **PROBE:**
    > **INCLUDE:** All practices, not just your main medical practice.
    >
    > **EXCLUDE:** Time spent in training, teaching, or research, hours on-call when you are not actually working, and travel between home and work at the beginning and end of each work day.
    >
    > **IF** on maternity/personal leave, sabbatical, temporarily disabled, semi-retired, etc. (i.e. any temporary situation in which they are expected to return to their normal schedule and will be providing at least 20 hours per week of direct patient care),
    >
    > **PROBE:** Before your [leave, disability, etc.], did you provide 20 hours of direct patient care during a typical week?

    YES 1

    NO ....0 → **GO TO Q.3**

2. Are you a resident or a fellow?

    YES 1

    NO ....0 → **GO TO A1**

3. At this time we are only interviewing doctors [FILL: who provide at least 20 hours of direct patient care per week who are not a resident or fellow]

    Thank you for your time.

    +---------------------------+
    | **END INTERVIEW** |
    +---------------------------+

A.   PERCEPTION OF CHRONIC ILLNESS

We are interested in your views on caring for patients with chronic medical conditions. For this study, we define a chronic medical condition as any condition that is expected to last a year or longer, limits what one can do, and may require ongoing care. These are the patients I would like you to think about in answering questions about chronic medical conditions.

A1.   What percentage of your patients have a chronic medical condition?

> **PROBE:** Your best estimate is fine. **READ CATEGORIES IF NECESSARY**.
>
> **INTERVIEWER NOTE:**
>   IF ANSWER IS 0, re-read question. If answer is still "0", go to
>   PROBE.
>
> **PROBE:** Let me make sure I understand your response. Can you please tell
>   me why you do not see any chronically ill patients?
>
> _____
>
> _____

0...1→ **GO TO A4**
1 to 19%, ...2
20 to 39%, ...3
40 to 59%, ...4
60 to 79%, ...5
80 to 99%, or 6
100% 7
DON'T KNOW ....d
REFUSED ....r

A2.   What percentage of <u>all</u> of your patients have two or more chronic medical conditions?

PROBE: Your best estimate is fine.

```
0 ................................................................. 1
1 to 19%, ..................................................... 2
20 to 39%, ................................................... 3
40 to 59%, ................................................... 4
60 to 79%, ................................................... 5
80 to 99%, or ............................................... 6
100% ............................................................ 7
DON'T KNOW ............................................... d
REFUSED ...................................................... r
```

A3.   What are your patients' three biggest worries about having a chronic illness?

<u>CIRCLE UP TO THREE</u>

NOT BEING ABLE TO AFFORD
NEEDED MEDICAL CARE 1

HAVING LARGE MEDICAL EXPENSES 2

LOSING INDEPENDENCE 3

BEING A BURDEN TO FAMILY
OR FRIENDS 4

GIVING UP ENJOYABLE THINGS (E.G.,
HOBBIES, INTERESTS, ACTIVITIES, ETC.) 5

NOT BEING ABLE TO LIVE AT HOME 6

BEING IN PAIN 7

FEAR OF DEATH OR DYING 8

BEING STIGMATIZED/
FEELING SELF-CONSCIOUS 9

BEING DISCRIMINATED AGAINST IN
EMPLOYMENT OR EDUCATION 10

BEING ISOLATED FROM FAMILY
AND FRIENDS 11

FEAR OF PROGRESSION, PARALYSIS,
OR INCAPACITATION 12

HAVING A POOR QUALITY OF LIFE/
DISRUPTION OF LIFE 13

FINDING COMPETENT HELP/
BEING ABLE TO CONTINUE CARE 14

OTHER WORRY (SPECIFY) 15

_____

OTHER WORRY (SPECIFY) 16

_____

OTHER WORRY (SPECIFY) 17

_____

NONE 99

DON'T KNOW .... d

REFUSED .... r

A4.   How difficult do you think it is for most people with chronic medical conditions to get (READ EACH ITEM)? Is it very difficult, somewhat difficult, not too difficult or not at all difficult?

PROBE: Please think in general terms and not about your own patients.

		Very Difficult	Somewhat Difficult	Not Too Difficult	Not at All Difficult	DON'T KNOW	REFUSED
A4a.	the care they need from primary care doctors? Is it . . .	1	2	3	4	d	r
A4b.	the care they need from medical specialists? Is it . . .	1	2	3	4	d	r
A4c.	the care they need from other professionals such as physical or occupational therapists or social workers? Is it	1	2	3	4	d	r
A4d.	the prescription drugs they need? Is it . . .	1	2	3	4	d	r
A4e.	adequate health insurance? Is it . . .	1	2	3	4	d	r
A4f.	help from their family to manage their care at home? Is it . . .	1	2	3	4	d	r
A4g.	mental health care? Is it . . .	1	2	3	4	d	r
A4h.	special education or training? This does not include occupational therapy. Is it . . .	1	2	3	4	d	r
A4i.	respite care? Is it . . .	1	2	3	4	d	r
	PROBE: respite care is temporary relief for a caregiver who provides care to an ill or disabled family member						

B. COORDINATION OF CARE

B1. Next, I'm going to ask you about your experience in coordinating care for patients with chronic medical conditions. For each of the following, please give me a rating from 1, not a problem, to 5, a major problem.

How much of a problem is it for you to coordinate care for chronically ill patients with . . .

		NOT A PROBLEM				A MAJOR PROBLEM	DON'T KNOW	REFUSED
B1a.	**other physicians** involved in treatment. Is this 1, not a problem, to 5, a major problem. PROBE: Please rate from 1 to 5.	1	2	3	4	5	d	r
B1b.	other **professionals** involved in treatment such as nurses, physical therapists, or home health care workers	1	2	3	4	5	d	r
B1c.	**social service providers** working with the chronically ill such as social workers or special education personnel	1	2	3	4	5	d	r
B1d.	institutions that care for patients with chronic illnesses such as nursing homes	1	2	3	4	5	d	r
B1e.	schools or employers that may need to accommodate people with chronic illnesses	1	2	3	4	5	d	r
B1f.	family members and caregivers?	1	2	3	4	5	d	r

B2. Next I'm going to read some problems that can occur for chronically ill patients. We are interested in whether you think these problems are caused by failures to coordinate care. Please give a number from 1 to 5, with 1 meaning the problem is __not__ usually caused by failure to coordinate care and 5 meaning that it __is__ usually caused by failure to coordinate care.

PROBE: Is failure to coordinate care, 1, not usually a cause of this to, 5, usually a cause of this?

		NOT USUALLY A CAUSE				USUALLY A CAUSE	DON'T KNOW	REFUSED
B2a.	Patients experiencing unnecessary pain. Is failure to coordinate care, 1, not usually a cause of this to, 5, usually a cause of this?	1	2	3	4	5	d	r
B2b.	Problems occurring with medications such as drug to drug interactions. Is failure to coordinate care, 1, not usually a cause of this to, 5, usually a cause of this?	1	2	3	4	5	d	r
B2c.	Patients not functioning as well as they could. Is failure to coordinate care, 1, not usually a cause of this to, 5, usually a cause of this?	1	2	3	4	5	d	r
B2d.	Emotional problems not getting needed attention. Is failure to coordinate care, 1, not usually a cause of this to, 5, usually a cause of this?	1	2	3	4	5	d	r
B2e.	Unnecessary hospitalization. Is failure to coordinate care, 1, not usually a cause of this to, 5, usually a cause of this?	1	2	3	4	5	d	r
B2f.	Unnecessary nursing home placement. Is failure to coordinate care, 1, not usually a cause of this to, 5, usually a cause of this?	1	2	3	4	5	d	r
B2g.	Patients receiving contradictory information from doctors and/or other health professionals. Is failure to coordinate care, 1, not usually a cause of this to, 5, usually a cause of this?	1	2	3	4	5	d	r
B2h.	Duplicate tests or diagnostic procedures. Is failure to coordinate care, 1, not usually a cause of this to, 5, usually a cause of this?	1	2	3	4	5	d	r

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B3.   Overall, who do you think is best suited to coordinate the treatment and service needs of a patient with chronic illnesses?

        The primary care physician,...............................1

        Specialists, ...2

        Nurses and other nonphysician health
        professionals, or 3

        Patients and their family members? 4

        HAS TO BE SHARED 5

        DEPENDS ON THE PATIENT/
        DIFFERENT FOR EVERY PATIENT.................6

        DON'T KNOW ....d

        REFUSED ....r

B4.   Next, please tell me whether you strongly agree, somewhat agree, somewhat disagree or strongly disagree with the following statement.

        Lack of coordination of care is a serious problem in meeting the treatment and service needs of chronically ill patients.

        STRONGLY AGREE, ...1

        SOMEWHAT AGREE,..2

        SOMEWHAT DISAGREE, OR 3

        STRONGLY DISAGREE? 4

        DON'T KNOW ....d

        REFUSED ....r

C. BEHAVIOR CHANGE AND LIFESTYLE

The next set of questions is about behavior change services.

C1. Using a scale from 1 to 5 where 1 is very likely and 5 is very unlikely, please rank how likely you are to offer behavior change services for your patients with chronic illness for:

> **PROBE:** The service may be offered by you directly or through referrals.

	Very Likely				Very Unlikely	NA	DON'T KNOW	REFUSED
C1a. Tobacco use	1	2	3	4	5	n	d	r
C1b. Improper diet	1	2	3	4	5	n	d	r
C1c. Sedentary lifestyle	1	2	3	4	5	n	d	r
C1d. Problem drinking	1	2	3	4	5	n	d	r
C1e. Treatment nonadherence such as medication or self care	1	2	3	4	5	n	d	r

C2. Which of the following do you and your practice use to address health behavior change issues? Do you...

		YES	NO
C2a.	Identify and maintain an active registry of patients with chronic medical conditions	1	0
C2b.	Integrate treatment guidelines into practice through education, reminders and information systems	1	0
C2c.	Provide counseling through others in your office such as nurse or health educator	1	0
C2d.	Have a formal referral system in place for linking these patients to community programs	1	0
C2e.	Regularly use reminder methods such as appointment cards, telephone or E-mail to follow up with patients	1	0

D.   ADEQUACY OF INSURANCE COVERAGE

Next, I'm going to ask you about insurance coverage for patients with chronic illnesses.

D1.   Is health insurance sufficient to cover all the types of care they need in order to cope with their medical conditions?

> **PROBE:**   By "all types of care" we mean both medical and supportive care such as home health care, respite care, or counseling.

YES 1

NO 0

DON'T KNOW ....d

REFUSED ....r

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D2.   What types of care do your patients have problems getting their insurance to pay for most often?

PROBE FOR UP TO SIX

<u>MULTI-RESPONSE</u>

PHYSICAL EXAMS AND
PREVENTIVE CARE...1

PRESCRIPTION MEDICATIONS.....................2

REHABILITATIVE CARE, SUCH AS
PHYSICAL, OCCUPATIONAL,
AND SPEECH THERAPY 3

NURSING HOME CARE 4

SKILLED HOME HEALTH CARE.....................5

ASSISTANCE WITH PERSONAL CARE
AT HOME FROM AIDES
OR ATTENDANTS 6

MENTAL HEALTH SERVICES
OR COUNSELING..7

MEDICAL DEVICES OR EQUIPMENT 8

VISITS TO PHYSICIAN SPECIALISTS.............9

HOSPITAL COSTS 10

ALTERNATIVE OR COMPLIMENTARY
TREATMENTS 11

EMERGENCY ROOM SERVICES 12

OTHER (SPECIFY) 13

_____

OTHER (SPECIFY) 14

_____

OTHER (SPECIFY) 15

_____

NONE 16

DON'T KNOW ....d

REFUSED ....r

E.   PROVIDER SATISFACTION

Next, I'm going to ask you about your satisfaction levels.

E1.   In general, would you say that you find being a physician . . .

        very satisfying, ...1

        somewhat satisfying, ...2

        somewhat unsatisfying, or 3

        very unsatisfying? 4

        DON'T KNOW ....d

        REFUSED ....r

E2.   Is caring for patients with chronic illnesses a part of your practice that gives you. . .

        a great deal of satisfaction, ...1

        some satisfaction, ...2

        a little satisfaction, or 3

        no satisfaction? 4

        NA ....n

        DON'T KNOW ....d

        REFUSED ....r

E3. Did your medical school training and residency leave you feeling positive, negative or neutral about . . .

		Positive	Negative	Neutral
E3a.	taking care of patients with chronic illness?	1	2	3
E3b.	your ability to care for patients even if you can't cure them?	1	2	3
E3c.	your ability to influence patient behavior?	1	2	3
E3d.	being able to make a difference in the lives of patients with chronic illness?	1	2	3

E4. Thinking back to your own medical training, including medical school and residency, and given the demands of your practice today, did you receive more training than needed, less training than needed, or about the right amount of training in . . .

PROGRAMMER NOTE: ROTATE STARTING ITEM IN E4a-E4j.

		More Training	Less Training	About the Right Amount	NOT APPLICABLE	DON'T KNOW	REFUSED
E4a.	management of geriatric syndromes such as falls, incontinence and dementia?	1	2	3	n	d	r
E4b.	chronic pain management?	1	2	3	n	d	r
E4c.	nutrition in chronic illness?	1	2	3	n	d	r
E4d.	assessment of developmental milestones of chronically ill children?	1	2	3	n	d	r
E4e.	end-of-life care?	1	2	3	n	d	r
E4f.	management of psychological and social aspects of chronic illness?	1	2	3	n	d	r
E4g.	approaches to educating chronically ill patients?	1	2	3	n	d	r
E4h.	assessment of caregiver and family needs for patients with chronic illness?	1	2	3	n	d	r
E4i.	coordination of in-home and community services for the chronically ill?	1	2	3	n	d	r
E4j.	interdisciplinary teamwork with nonphysician providers of care for the chronically ill?	1	2	3	n	d	r

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F.   PERCEPTION OF CHRONIC ILLNESS

F1.   In addition to this study of physicians, we have conducted a general population study in which we asked people questions about chronic illness. We are interested in comparing those answers with answers from physicians.

What percent of Americans would you say have some type of chronic medical condition?

|___|___|___| PERCENT

F2.   Do you think this number will increase, decrease, or stay about the same in the next 10 years?

INCREASE 1

DECREASE...2

STAY THE SAME...................................3

DON'T KNOW ....d

REFUSED ....r

PROGRAMMER:

IF F1 = 100, IN F2 REMOVE THE WORD "INCREASE" FROM QUESTION STEM AND FROM CHOICES.

IF F1 = 0, IN F2 REMOVE THE WORD "DECREASE" FROM QUESTION STEM AND FROM CHOICES.

F3. I'll read you a few statements, and for each, tell me if you strongly agree, somewhat agree, somewhat disagree, or strongly disagree.

		Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	DON'T KNOW	REFUSED
F3a.	Chronic medical conditions affect men and women of all ages, ethnicities, and income levels. Do you . . .	1	2	3	4	d	r
F3b.	Chronic medical conditions nearly always limit a person's ability to work or to attend school. Do you . . .	1	2	3	4	d	r
F3c.	Health insurance pays for most of the services chronically ill people need. Do you . . .	1	2	3	4	d	r
F3d.	The cost of caring for people with chronic medical conditions accounts for most of the medical spending in this country. Do you . . .	1	2	3	4	d	r
F3e.	People with chronic medical conditions receive adequate medical care. Do you . . .	1	2	3	4	d	r
F3f.	Government programs are adequate to meet the needs of people with chronic medical conditions. Do you . . .	1	2	3	4	d	r

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G.   PRACTICE ENVIRONMENT

Next, I'm going to ask you about your practice.

G1.   Approximately how many patient visits do you personally have in an average week?

> **PROBE:** Patient visits includes you visiting patients in a hospital as well as patients visiting you in your office.

|___|___|___|

DON'T KNOW ....d

REFUSED ....r

G2.   About what percentage of your patients are . . .

G2a.   under 18 years of age?.....................................|___|___|___|%

DON'T KNOW ....d

REFUSED ....r

G2b.   between 18 and 64?...|___|___|___|%

DON'T KNOW ....d

REFUSED ....r

G2c.   65 years and older?...|___|___|___|%

DON'T KNOW ....d

REFUSED ....r

TOTAL: |_1_|_0_|_0_|%

PROGRAMMER NOTE: G2a + G2b + G2c = 100%

H.   BACKGROUND

And now for my last two questions.

H1.   Are you of Hispanic or Latino origin or descent?

YES 1

NO 0

DON'T KNOW ....d

REFUSED ....r

H2.   Please tell me which of the following categories best describes your racial
background? Are you . . .

White, ...1

African-American or Black, ...2

Asian, Asian-American or Pacific Islander,........3

Native American, or 4

Other...5

BI-RACIAL OR MULTI-RACIAL........................6

REFUSED ....r

These are all the questions I have for you. Thank you very much for your cooperation. In appreciation for your time, we would like to send you the $25 that I mentioned earlier.

Please give me your full name and address where you would like to have your check mailed.

FULL NAME:_____	
ADDRESS:_____	
_____	
ZIP:_____	

Thank you once again. You can expect to receive your check within one month. Goodbye.

End Time: _____

JOHNS HOPKINS
U N I V E R S I T Y

National Public Engagement
Campaign on Chronic Illness

School of Hygiene and Public Health
624 North Broadway / Third Floor
Baltimore, Maryland 21205
(410) 955-7314/ FAX (410) 955-2301

auto date here

«Firstname» «Lastname»
«Address»
second address line
«City», «State» «Zip»

Dear Dr. «Lastname»:

We are writing to ask for your assistance to improve the care for persons with chronic illness in the United States. Johns Hopkins University, with a grant from the Robert Wood Johnson Foundation, has launched a National Public Engagement Campaign on Chronic Illness. This campaign seeks to identify strategies for reforming the health care system to better meet the needs of persons with chronic illnesses. As part of this campaign, we are conducting a survey of physicians about their experiences and opinions caring for chronically ill patients.

Johns Hopkins University and Robert Wood Johnson Foundation are conducting this survey to collect unbiased and representative information about chronic illness care that accurately reflects the opinions of physicians everywhere. As part of this process, you have been randomly selected to participate in this survey. In order to ensure that the research is valid and representative, we hope you will agree to participate in this important research endeavor.

To conduct the survey, Johns Hopkins University has contracted with Mathematica Policy Research, Inc., one of the leading policy survey organizations in the country. We have attached some information regarding this study to help answer any questions you may have. An interviewer from Mathematica will call you within a few days to conduct the interview after you have had a chance to look over this information.

We know how busy you are, which is why we are asking you to take only fifteen minutes out of your day to answer some questions that will help us gather information on the current state of chronic illness in the U.S. To thank you for your participation, we are offering $25.

We want to assure you that we adhere to strict confidentiality guidelines; your name and other identifying information will not be used in data analysis or reporting of results. To learn more about the study, you may contact Dr. Gerard Anderson or Dr. Mae Thamer at Johns Hopkins at (410) 955-7314. If you would like to complete the interview now or schedule an appointment, please call Alisa DeSantis at (800) 263-3909.

Sincerely,

Gerard F. Anderson, PhD

Sincerely,

Neil R. Powe, MD, PhD

Enclosure

JOHNS HOPKINS
U N I V E R S I T Y

National Public Engagement
Campaign on Chronic Illness

School of Hygiene and Public Health
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MATHEMATICA
Policy Research, Inc.

P.O. Box 2393
Princeton, NJ 08543-2393
Telephone (609) 799-3535
Fax (609) 799-0005
www.mathematica-mpr.com

QUESTION AND ANSWER SHEET

Why is this project important?
The Johns Hopkins University with a grant from the Robert Wood Johnson Foundation is conducting a campaign to fundamentally improve care for the chronically ill by raising awareness of issues related to health care delivery and financing. Your participation in this important research will aid researchers and policy-makers to better understand the obstacles that physicians and chronically ill patients face. The results of this study will help policy-makers to implement programs and improve the quality of care for chronically ill people. Some well-known consortium partners of this campaign include: ◻ Alzheimer's Association ◻ American Academy of Pediatrics ◻ American Diabetes Association ◻ American Geriatrics Society ◻ Family Voices ◻ National Chronic Care Consortium ◻ National Alliance for the Mentally Ill

What type of information is collected?
We will collect information on the kinds of issues that you face in caring for patients with chronic illnesses, and the issues that patients face in receiving care, resources, and information.

How is the information collected?
The data will be collected during a telephone interview with a trained interviewer from Mathematica Policy Research, Inc., a social policy research organization.

How is the information used?
Johns Hopkins School of Public Health will use results from the survey to affect policy and public attitudes towards care for the chronically ill.

Why was I chosen?
You were selected as part of a statistically controlled random sample to represent thousands of other physicians in the country. Your participation is critical to ensuring that the information collected is representative of physicians in all types of specialties and areas of the country. No one can be chosen to take your place in this research.

How long will this take?
On average, the interview lasts about 15 minutes.

Is there an incentive to participate?
You will receive a $25 honorarium for your participation.

What about confidentiality?
Both Johns Hopkins and Mathematica adhere to strict confidentiality guidelines. All information that would permit identification of any participant will be regarded as strictly confidential.

Where can I see results of the study?
Results of these studies will be published in a variety of professional journals.

Who is conducting the study?
Johns Hopkins has contracted with Mathematica to collect the data on their behalf. Mathematica is a social policy research organization that seeks to improve public policy through research and analysis. You may visit Mathematica on the web at http://www.mathematica-mpr.com.

When can I complete the interview?
You may complete the interview at any time that is convenient for you. We are happy to call you during evenings or weekends as well as during regular business hours, at home or in the office.

Where can I get more information?
For information on why we are conducting this survey and how the data will be used, please contact: Dr. Mae Thamer, Principal Investigator Hampton House Room 306 Johns Hopkins University 624 North Broadway Baltimore, MD 21205 (410) 955-7314 For information on topics covered during the interview or to request an appointment to be interviewed, please contact: Alisa DeSantis, Survey Coordinator Mathematica Policy Research, Inc. P.O. Box 2393 Princeton, NJ 08543-2393 (800) 263-3909

March 5, 2001

«First_Name» «Last_Name»
«Address»
«Address2»
«City», «State» «Zip»

Dear Dr. «Last_Name»:

A while ago, an interviewer from Mathematica called you regarding an important campaign Johns Hopkins University is conducting regarding **Chronic Illness in the United States**. This campaign seeks to inform practitioners, policy makers, patients, and the general public about important issues related to chronic illness. As part of the campaign, *we are conducting a survey of physicians about their experiences and opinions caring for chronically ill patients.*
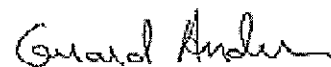
We appreciate that you are very busy, but we hope that you might take the opportunity to participate in our survey that <u>only takes 15 minutes to complete by phone</u>. Your participation is very important so that the views and experiences of physicians like you are represented in the final results.

We can schedule the interview at your convenience and we are enclosing $25 as a way of thanking you for participating in this important research project. Please be assured that all of the information you provide will remain confidential. If you are able to complete this interview, please call (800) 263-3909 and ask for Jamie Hill.

To learn more about the study, you may contact Dr. Gerard Anderson or Dr. Mae Thamer at Johns Hopkins at (410) 955-7314.

Thank you very much for your consideration! We hope that you are able to participate in this important research endeavor.

Sincerely,

Gerard Anderson

Gerard F. Anderson, PhD
Enclosure

«ID»

DATA

QUESTION A3

OPEN ENDED RESPONSES

DATA

QUESTION D2

OPEN ENDED RESPONSES

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AMA—PDD DEMOGRAPHIC VARIABLES

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FINAL FREQUENCIES

Physician response rates have been declining in recent years. Researchers have used a variety of methods to increase response rates and are searching for more effective ways of enticing physicians to participate. Although prepaid incentives to physicians for completion of telephone and mail surveys have been widely studied, few studies exist on the use of prepaid incentives to convert refusals. We conducted a refusal experiment on 247 physicians randomly selected from a larger pool of physicians who had refused to participate in a telephone study about care for the chronically ill. All physicians were paid $25 to complete a fifteen-minute interview; however, of those who refused, we randomly assigned half to receive a refusal-conversion letter with a prepaid check for $25 and half to receive a refusal-conversion letter promising $25 upon completion of the interview. Preliminary analyses showed a modest benefit in offering a prepaid incentive as compared with a postpaid incentive during the refusal-conversion process. We will examine other factors that may affect the ability to convert refusals such as physician characteristics, the amount of time it took to convert a refusal in the treatment versus control group, and whether the incentive made a difference in converting gatekeepers who refused on behalf of the physicians. We conclude with a discussion of strategies for designing effective refusal-conversion stages.