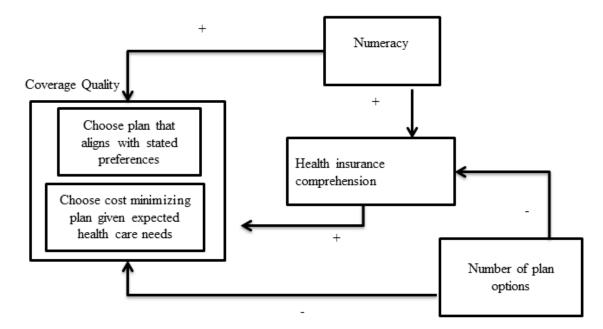
APPENDIX 1 Conceptual Model of Coverage Quality



### **APPENDIX 2. Survey**

### Tell us a little more about yourself by completing the section below

- - \_\_\_\_ c. Some college (including Associate degree)
  - \_\_\_\_\_e. Completed college (Bachelor's degree)
  - \_\_\_\_\_e. Master's degree
  - \_\_\_\_ f. Doctoral degree
- 5. Is English the main language that you speak at home? (Please  $\checkmark$  one response only)

\_\_\_Yes \_\_\_No

6. If you speak a language other than English at home, would you say that you speak English...(please one response only)

	VERY WELL	WELL	NOT WELL	NOT AT ALL	N/A (speaks English at home)
7.	What is your n	narital status?	? (please 🗸 one	response only)	
			a. Married		
			b. Widowe	ed	
			c. Divorced	d	
			d. Separate	ed	
			e. Never M	Iarried	
8.	What types of	health insura	nce do you curren	tly have? (please	✓ all that apply)
			a. Medicar	e	
			b. Medicai	d	
			c. Health i	nsurance provide	d to you through your own
			or a fami	ily member's cur	rent or former employer
			d. Individu	ally purchased pr	ivate health insurance
			e. No healt	h insurance	
9.	What is your b	est estimate o	of your household	total monthly ind	come?
		_			
10	Including your	self, how ma	ny people living i	n vour household	are supported by the total

- 10. Including yourself, how many people living in your household are supported by the total household income indicated in question 9? \_\_\_\_\_
- 11. Are you currently working for pay?
  - Yes \_\_\_\_\_ No\_\_\_\_\_
- 12. Do you currently have a bank account?

Yes\_\_\_\_\_ No\_\_\_\_\_

In the	section below, please V	which chro	onic conditio	on(s) you have (sele	ct all that apply):
	Diabetes				
	Asthma				
	Emphysema or COPD				
	Other Lung Disease (spe	cify type)			_
	Heart Disease (specify ty	pe)			_
	Arthritis or other rheuma	tic disease			
	Cancer (specify type)				-
	Other chronic condition	(specify type)	)		
	None				
next to		your health is: ery Good	Good Good	I 🗌 Fai	r Door
	llowing questions relate to lect the answer that best fit	• -		0	ie statements below
Have y	ou ever smoked 100 cigaret	tes in your ent	ire life?		
	Yes	No	Refused	Don't Know	
Do you	now smoke cigarettes every	v day, some da	ys, or not at a	.11?	
	Every day S	Some days	No Ref	used Don't Kn	ow

The following questions are about activities you might do during typical day and whether your health now limits you in these activities. Please  $\checkmark$  one response only.

	Yes, limited a lot	Yes, limited a little	No, not limited at all
Moderate activities such as moving a table, pushing a vacuum cleaner, bowling or playing golf			
Climbing several flights of stairs			

Thinking about the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities because of your physical health? Please ✓ one response only.

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
Accomplished less than you would like					
Were limited in the kind of work or other activities					
Thinking about the past 4 w with your work or other re depressed or anxious)? Ple	gular daily a	ctivities becaus	•	•	
	All of the time	Most of the time	Some of the time	A little of the time	None of the time
Accomplished less than you would like					
Did work or activities less					

During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

	Not at all	A little	bit Mode	rately Quit	e a bit Extrem	nely
						]
These questions a For each question Please ✓ one re	n, please give	•	0		•	-
	All	of the time	Most of the time	Some of the time	A little of the time	None of the time
Have you felt calr	n and peaceful					
Did you have a lo	t of energy					
Have you felt dow Depressed	nhearted and					

During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, etc.)? Please ✓ one response only.

All of the time	Most of the time	Some of the time	A little of the time	None of the time

## The next few questions are about your visits to health care providers in the last 12 months: Please ✓ one response only.

1. How many times did you go to the emergency room?

0	1	2-3	4-5	6-9	10+

2. Not counting times you went to an emergency room, how many times did you go to a doctor's office or clinic to get care for yourself?



3. Not counting times you went to an emergency room, how many times were you admitted to the hospital?

0	1	2-3	4-5	6-9	10 +

2a. How many nights did you stay in a hospital in total for all admissions?

0	1	2-3	4-5	6-9	10+

4. How many times did visit an outpatient department (<u>do not</u> include visits to the doctor's office or clinic, the hospital, or the emergency department)?



5. Did you take any prescription medications in the past 12 months? Please  $\checkmark$  one response only.

Yes		No
-----	--	----

5a. How much in total did you spend on prescription medications?

\$\_\_\_\_\_ Prescription medication

6. Did you have any other medical expenses in the past 12 months that are not listed above?

Yes	No
-----	----

6a. How much in total did you spend on other medical expenses not listed above?

\$\_\_\_\_\_ Other medical expenses

### **Exchange Scenario 1**

Please read the following carefully.

In 2014, as part of the Affordable Care Act, many Americans without health insurance will be able to buy an insurance plan through the new state health insurance exchanges. The insurance exchanges are marketplaces where insurance companies will compete for your business.

Imagine that you are buying health insurance for yourself through one of the insurance exchanges. Think about your health over the last year, your current income, how many times you saw your doctor, went to the emergency room, or stayed in the hospital. Using the table provided you will be asked to choose one of the insurance plans listed.

We will also provide you with a page containing the definitions of terms used throughout this task to help you in answering these questions.

Plan Name	А	В	С
Plan Level	Bronze	Silver	Gold
Monthly premium cost	\$72	\$115	\$192
Annual deductible	\$5,000	\$750	\$500
Annual Out-of-Pocket max	\$10,000	\$4,250	\$2,000
(includes deductible)			
Doctor visit copay	\$20	\$35	\$30
Generic prescription drug copay	\$20	\$15	\$15
Emergency room copay	40% after deductible	30% after deductible	20% after deductible
Hospital stay copay	40% after deductible	30% after deductible	20% after deductible
Insurance plan quality rating	4.1 out of 5	4.2 out of 5	3.7 out of 5
Total you pay to manage your diabetes	\$4,100	\$1,821	\$1,292
Total you pay to give birth in a hospital	\$5,992	\$2,770	\$1,902

Think about your health in this past year including how many times you saw your doctor, went to the emergency room, or stayed in the hospital. Also consider your current income. Imagine your health remains exactly the same this year as last year. Which health insurance plan do you think will best meet your individual needs this year?

O Plan A O Plan B

O Plan C

Based on the plan you have chosen, which 3 features are most important to you when buying health insurance? (select three)

	1	5	5					
	0	Plan level		0	Emergency room copay			
	0	Monthly premium cost		0	Hospital stay copay			
	0	Annual deductible		0	Insurance plan quality rating			
	0	Annual Out-of-Pocket max		0	Total you pay to manage your diabetes			
	0	(includes deductible)		0	Total you pay to give birth in a hospital			
	0	Doctor visit copay		0	Generic prescription drug copay			
Based on the selection you have made, is the total out-of-pocket max of your insurance plan less than the other insurance plans listed? (circle one)								
		YES	NO					
Based on the selection you have made, is the deductible of your insurance plan less than the other insurance plans listed? (circle one)								
		YES	NO					

Which plan would be the lowest cost plan if you knew for certain you would not need any health care services in the next year?

O Plan A O Plan B O Plan C

Which plan would be the lowest cost plan if you knew you would be hospitalized soon for a minor procedure and the total cost of the procedure would be \$10,000?

O Plan A O Plan B O Plan C

11

### **Exchange Scenario 2**

### **Plan Choice**

Again, please read the following carefully.

In 2014, as part of the Affordable Care Act, many Americans without health insurance will be able to buy an insurance plan through the new state health insurance exchanges. The insurance exchanges are marketplaces where insurance companies will compete for your business.

Imagine that you are buying health insurance for yourself through one of the insurance exchanges. Think about your health over the last year, your current income, how many times you saw your doctor, went to the emergency room, or stayed in the hospital. Using the table provided you will be asked again to choose one of the insurance plans listed.

We will also provide you with a link to a page containing the definitions of terms used throughout this task to help you in answering these questions.

Plan Name	А	В	С	D	Е	F	G	Н	Ι
Plan Level	Bronze	Bronze	Bronze	Silver	Silver	Silver	Gold	Gold	Gold
Monthly premium cost	\$72	\$73	\$77	\$115	\$117	\$121	\$192	\$195	\$203
Annual deductible	\$5,000	\$10,000	\$10,000	\$750	\$2,000	\$1,250	\$500	\$0	\$1,000
Annual Out-of-Pocket	\$10,000	\$10,000	\$15,000	\$4,250	\$5,000	\$5,500	\$2,000	\$3,000	\$2,500
max (includes deductible)									
Doctor visit copay	\$20	\$35	\$35	\$35	\$20	\$25	\$30	\$25	\$25
Generic prescription	\$20	\$15	\$15	\$15	\$20	\$15	\$15	\$15	\$15
drug copay									
Emergency room copay	40% after	0% after	30% after	30% after	25% after	30% after	20% after	35% after	20% after
	deductible								
Hospital stay copay	40% after	0% after	30% after	30% after	25% after	30% after	20% after	35% after	20% after
	deductible								
Insurance plan quality rating	4.1 out of 5	4.0 out of 5	3.5 out of 5	4.2 out of 5	4.0 out of 5	3.9 out of 5	4.2 out of 5	4.1 out of 5	3.8 out of 5
Total you pay to manage your diabetes	\$4,100	\$4,100	\$4,100	\$1,821	\$2,450	\$2,116	\$1,292	\$1,445	\$1,632
Total you pay to give birth in a hospital	\$5,992	\$7,450	\$7,450	\$2,770	\$3,378	\$3,121	\$1,902	\$2,617	\$2,302

Think about your health in this past year including how many times you saw your doctor, went to the emergency room, or stayed in the hospital. Also consider your current income. Imagine your health remains exactly the same this year as last year. Which health insurance plan do you think will best meet your individual needs this year?

0	Plan A	0	Plan D	0	Plan G
0	Plan B	0	Plan E	0	Plan H
0	Plan C	0	Plan F	0	Plan I

Based on the plan you have chosen, which 3 features are most important to you when buying health insurance? (select three)

0	Plan level	0	Emergency room copay
0	Monthly premium cost	0	Hospital stay copay
0	Annual deductible	0	Insurance plan quality rating
0	Annual Out-of-Pocket max	0	Total you pay to manage your diabetes
0	(includes deductible)	0	Total you pay to give birth in a hospital
0	Doctor visit copay	0	Generic prescription drug copay

Based on the selection you have made, is the total out-of-pocket max of your insurance plan less than the other insurance plans listed? (circle one)

YES

NO

Based on the selection you have made, is the deductible of your insurance plan less than the other insurance plans listed? (circle one)

YES NO

Which plan would be the lowest cost plan if you knew for certain you would not need any health care services in the next year?

0	Plan A	0	Plan D	0	Plan G
0	Plan B	0	Plan E	0	Plan H
0	Plan C	0	Plan F	0	Plan I

Which plan would be the lowest cost plan if you knew you would be hospitalized soon for a minor procedure and the total cost of the procedure would be \$10,000?

- o Plan A
- o Plan B
- o Plan C
- o Plan D
- o Plan E
- o Plan F
- o Plan G
- o Plan H
- o Plan I

Now we will ask you some questions about chance. Please select the correct answer, or write the answer in the blank space when no choices are given.

1. Imagine that we roll a fair, six sided die 1, 000 times. Out of 1,000 rolls, how many times do you think the die would come up even (2, 4, or 6)? Please give your response in NUMBERS not words (i.e. 12, not "twelve")

Number of times:

2. Imagine that we are throwing a five-sided die 50 times. On average, out of these 50 throws how many times would this five-sided die show an odd number (1,3 or 5)?

Number of times:\_\_\_\_\_

3. In BIG BUCK LOTTERY, the chances of winning a \$10 prize are 1%. What is your best guess about how many people would win a \$10 prize if 1,000 people each buy a single ticket from BIG BUCKS?

Number of people:\_\_\_\_\_

4. In the ACME PUBLISHING SWEEPSTAKES, the chances of winning a car are 1 in 1,000. What percent of tickets of ACME PUBLISHING SWEEPSTAKES win a car?

Percent of tickets:\_\_\_\_\_

In the following questions, you will be asked about your involvement in your own healthcare. For each statement below please mark a  $\checkmark$  in <u>one</u> space to the right that best describes how much you disagree or agree with the statement. There is no right or wrong answer. Your answer should be what is true to you.

		Strongly	D		Strongly	Not
1.	When all is said and done, I am the person who is responsible for managing my health	Disagree	Disagree	Agree	Agree	Applicable
2.	Taking an active role in my own health care is the most important factor in determining my health and ability to function					
3.	I am confident that I can take actions that will help prevent or minimize some symptoms or problems associated with my health condition					
4.	I know what each of my prescribed medications do					
5.	I am confident that I can tell when I need to go get medical care and when I can handle a health problem myself					
6.	I am confident I can tell my health care provider concerns I have even when he or she does not ask					
7.	I am confident that I can follow through on medical treatments I need to do at home					
8.	I understand the nature and causes of my health condition(s)					
9.	I know the different medical treatment options available for my health condition					
10.	I have been able to maintain the lifestyle changes for my health that I have made					
11.	I know how to prevent further problems with my health condition					
12.	I am confident I can figure out solutions when new situations or problems arise with my health condition					
13.	I am confident that I can maintain lifestyle changes like diet and exercise even during times of stress					

Using the scale below, mark a  $\checkmark$  in the box to the right that best describes how likely you would do the activities in the following statements.

		Extremely Unlikely	Moderately Unlikely	Somewhat Unlikely	Not Sure	Somewhat Likely	Moderately Likely	Extremely Likely
1.	Eating 'expired' food products that still 'look okay'.							
2.	Frequent binge drinking.							
3.	Ignoring some persistent physical pain by not going to the doctor.							
4.	Taking a prescription drug that has a high likelihood of negative side effects.							
5.	Engaging in unprotected sex.							
6.	Never wearing a seatbelt.							
7.	Not having a smoke alarm in or outside of your bedroom.							
8.	Regularly riding your bicycle without a helmet.							
9.	Smoking a pack of cigarettes per day.							

<ul><li>10. Investing 10% of your annual income in a moderate growth mutual fund (like a 401K or other retirement plan)</li></ul>				
11. Betting a day's income at a high-stake poker game.				
12. Investing 5% of your annual income in a very speculative stock (like a stock with high risk relative to any potential positive returns).				
13. Betting a day's income on the outcome of a sporting event				
14. Betting a day's income at the horse races				
15. Investing 10% of your annual income in a new business venture				

# The next few questions ask you about whether you would rather win (or lose) less money now or more money a year from now.

Would you rather WIN \$20 now or \$30 a year from now?

- **O** Win \$20 now
- Win \$30 a year from now

Would you rather LOSE \$20 now or \$30 a year from now?

- O Lose \$20 now
- Lose \$30 a year from now

Would you rather WIN \$1,000 now or \$1,500 a year from now?

- **O** Win \$1,000 now
- Win \$1,500 a year from now

Would you rather LOSE \$1,000 now or \$1,500 a year from now?

- **O** Lose \$1,000 now
- Lose \$1,500 a year from now

Generally speaking, do you consider yourself to be a(n):

- **O** Democrat
- **O** Independent
- **O** Republican
- Other: \_\_\_\_\_

In general, how liberal or conservative do you tend to be?

C Extremely Liberal 1
C 2
C 3
C 4
C 5
C 6
C 7
C 8
C Extremely Conservative 9

In general, how liberal or conservative do you tend to be when it comes to economic policy?

O Extremely Liberal 1O 2

- **O** 3
- **O** 4
- **O** 5
- **O** 6
- **O** 7
- **O** 8
- **O** Extremely Conservative 9

In general, how liberal or conservative do you tend to be when it comes to social policy?

- **O** Extremely Liberal 1
- **O** 2
- **O** 3
- **O** 4
- **O** 5
- **O** 6
- **O** 7
- **O** 8
- **O** Extremely Conservative 9

### APPENDIX 3. 2009 MEPS Health Services Utilization and Costs

Over the last 12 months	Responses	Median cost per service
How many times did you go to the emergency room (ER)	0, 1, 2-3, 4-5, 6-9, 10+	\$684 per visit
Not counting times you went to the ER, how many times did you go to a doctor's office or clinic to get care for yourself	0, 1, 2-3, 4-5, 6-9, 10+	\$194 per visit
Not counting times you went to the ER, how many times were you admitted to the hospital	0, 1, 2-3, 4-5, 6-9, 10+	\$2,343 per admission if discharged same day
How many nights did you stay in a hospital in total for all admissions	0, 1, 2-3, 4-5, 6-9, 10+	\$5,137 per admission per night
How many times did you visit an outpatient department (do not include visits to the doctor's office or clinic, the hospital, or the emergency department)	0, 1, 2-3, 4-5, 6-9, 10+	\$640
Did you take any prescriptions How many	Y/N Self-reported	N/A Plan co-pay amount x number
How much in total did you spend on prescription medications	count Self-reported cost	of prescriptions x 12 months \$100
Did you have any medical expenses not listed above	Y/N	N/A
How much in total did you spend on other medical expenses not listed above	Self-reported cost	\$250

### APPENDIX 4 Empirical Definitions of Control Measures used in Adjusted Analyses Patient activation

The level of individuals' engagement in their health care decisions was assessed using a 13 item patient activation measure (Hibbard et al., 2005). The patient activation scale was summed and transformed to a scale ranging from 0 to 100 with higher numbers indicating participants were more engaged in their own health care. Many participants did not complete all 13 items. For the 36% with missing patient activation data, the mean patient activations score was used and a dummy indicator was created and included in our models allowing those observations to remain in our analyses.

### Risk attitudes

Participants were asked to answer the health/safety and financial items from the Domain-Specific Risk-Attitude Scale (DOSPERT; Blais and Weber, 2006). Responses to the DOSPERT items were each on a seven point scale with higher scores indicating higher propensity to take risks. The individual items were summarized into three measures: health risk, financial gambling, and financial investment (Blais and Weber, 2006).

### **Demographics**

Participants were asked to report their age, gender, race/ethnicity, highest grade completed, and marital status. Additionally, respondents indicated whether they were currently employed. A binary variable to indicate whether participants fell below the 2012 Federal Poverty Level was included using information on participants' household size and family income.

### Sample group

We included a binary variable indicating whether the participant was in the rural or online (referent) sample.

### Health status

Participants were asked whether they had any of the following chronic health conditions: diabetes, asthma, emphysema or chronic obstructive pulmonary disease (COPD), other lung disease, heart disease, arthritis, other rheumatic disease, cancer, other chronic condition or whether they did not have any chronic conditions. The general self-reported health status question from the SF-12 V2 (Ware et al., 1995) and current tobacco use were also included in the survey to measure respondents' health.

### High health services utilization

Using participants' responses to the MEPS utilization questions described above, an indicator variable was created representing whether participants had more than one emergency department and/or more than one inpatient admissions in the past year.

#### **APPENDIX 5** Sensitivity Tests

We tested the sensitivity of our main results to several decisions made in the data modeling process. First, our regression models employed listwise deletion such that an observation was not included if any data were missing for any of the variables in the model. With the exception of patient activation, where we created a missing dummy variable to include those observations in the model, 53 observations with missing data in any variable were dropped from the analysis. When we tested for significant differences between those included and excluded from our models, we found those with missing data tended to have lower numeracy, lower consistency scores, were more likely to be in the rural sample, and had higher financial risk scores (p<0.05 each). Second, although bivariate results indicated statistically significant differences between rural and online samples across many of our outcomes and covariates, when we interacted our rural sample indicator with other variables on the right-hand side of our models, we found the main effects to be consistent across model specifications and none of the interactions were significant. Third, we found no statistical evidence of collinearity among our regressors. Fourth, preference for plan quality could not be directly monetized and accounted for in our regressions estimating the correlates of choosing a plan costing at least \$500 or more. We tested the sensitivity of our results to preferences for plan quality by controlling for whether participants indicated plan quality was important in their insurance decision. Plan quality was not a significant predictor of choosing a more costly plan and including preference for plan quality did not affect our regressors of interest.

Fifth, to test whether our choice of a \$500 cut-off for the cost difference outcome affected our estimates of interest, additional sensitivity tests were conducted by constructing an outcome representing the percent difference in total annual costs between the plan chosen and the cheapest plan given a participant's health care needs. We then reestimated the models in Table 2 using generalized estimating equations assuming a Gaussian distribution for the percent cost difference outcome. Our results from this sensitivity analysis confirmed the estimates for the regressors of interest were robust to whether the excess cost outcome was treated dichotomously or as a percent of total expenditures. Sixth, our results were not sensitive to using the upper rather than lower bounds of health services utilization (e.g. if the range was 2-3 using 3 instead of 2 as was done in our main analyses) when calculating the total annual costs of plan choices. Finally, we tested the sensitivity of our definition of choice consistency by retaining only responses in the nine plan condition and redefining a consistent choice as one where the attribute of the plan chosen was best or second best among the available choice set and reestimated our models. We found that insurance comprehension was still significantly and positively correlated with choice consistency (OR 1.09, p<0.05) and the redefined choice consistency variable was significantly and negatively correlated with the odds of choosing a plan costing \$500 or more (OR 0.19, p<0.01). We also found no differences between models that did and did not rightcensor choice consistency at 2.