

Appendix

Figure A1. Timing of Data Collection

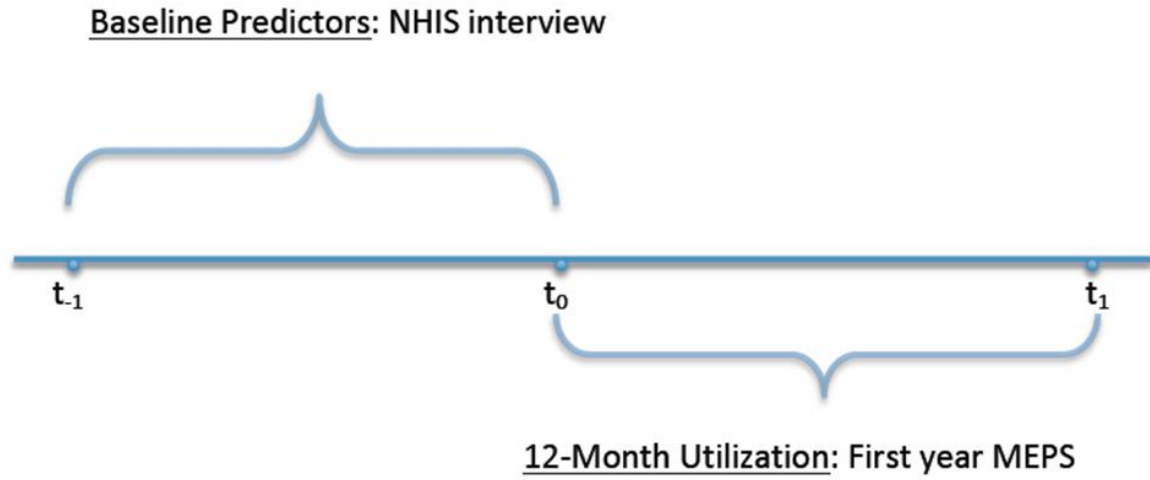


Figure A2. Inventory of Survey Questions for Top Performing Domains

Below is an inventory of the questions from the 2008 NHIS Persons and Sample Adult Questionnaires used to construct the measures in the top performing SRH domains in our paper.

We should note that, in practice, health needs assessments often present questions related to health conditions in an easy-to-read checklist format. Please refer to examples in Chaudhry, Jin, and Meltzer (2005) and Leininger et al. (2014).

Health Conditions

1. Have you EVER been told by a doctor or other health professional that you had emphysema?
2. Have you EVER been told by a doctor or other health professional that you had asthma?
3. DURING THE PAST 12 MONTHS, have you been told by a doctor or other health professional that you had chronic bronchitis?
4. Have you EVER been told by a doctor or other health professional that you had cancer or a malignancy of any kind?
5. [Other than during pregnancy,] Have you EVER been told that by a doctor or other health professional that you have diabetes or sugar diabetes?
6. Have you EVER been told by a doctor or other health professional that you had an ulcer?
7. Have you EVER been told by a doctor or other health professional that you had coronary heart disease?
8. Have you EVER been told by a doctor or other health professional that you had angina, also called angina pectoris?
9. Have you EVER been told by a doctor or other health professional that you had a heart attack?
10. Have you EVER been told by a doctor or other health professional that you had any kind of heart condition or heart disease (other than the ones I just asked about)?
11. DURING THE PAST 12 MONTHS, have you been told by a doctor or other health professional that you had any kind of liver condition?
12. DURING THE PAST 12 MONTHS, have you been told by a doctor or other health professional that you had weak or failing kidneys?
13. Have you EVER been told by a doctor or other health professional that you had a stroke?

Health-related Quality of Life

1. Would you say your health in general is excellent, very good, good, fair, or poor?
2. Are you LIMITED IN ANY WAY in any activities because of physical, mental or emotional problems?
3. Are you limited in the kind OR amount of work you can do because of a physical, mental or emotional problem?
4. Does a physical, mental, or emotional problem NOW keep you from working at a job or business?
5. Because of a physical, mental, or emotional problem, do you need the help of other persons in handling ROUTINE NEEDS, such as everyday household chores, doing necessary business, shopping, or getting around for other purposes?

6. Because of a physical, mental, or emotional problem, do you need the help of other persons with PERSONAL CARE NEEDS, such as eating, bathing, dressing, or getting around inside this home?

Prior Health Care Utilization

1. DURING THE PAST 12 MONTHS, HOW MANY TIMES have you gone to a HOSPITAL EMERGENCY ROOM about your own health (This includes emergency room visits that resulted in a hospital admission.)?
2. Including all infants born in a hospital, was {person} hospitalized OVERNIGHT in the past 12 months? Do not include an overnight stay in the emergency room.
3. During the past 12 MONTHS did {person} receive care from doctors or other health care professionals 10 or more times? (Do not include telephone calls.)

Table A1. Details on Construction of Predictor Measures			
Variable in Analysis	Source Data	Source Variable(s)	Notes on Construction
Age in years	NHIS Persons	AGE_P	
Sex	NHIS Persons	SEX	
Marital status	NHIS Persons	R_MARITL	Create indicator for currently married and spouse is in the household.
Number of adults in family	NHIS Persons	FM_SIZE, HHX, FMX	Construct by subtracting number of children in family (identified using HHX and FMX) from family size variable (FM_SIZE).
Number of children in family	NHIS Persons	HHX, FMX	Count number of children (age<18) in family identified using HHX and FMX.
Family income as % of FPL (0-50%, 51-100%, 101-138%)	NHIS Supplemental Imputed Family Income and Personal Earnings Files	POVRATI2	NCHS imputes values for families with missing income information using multiple imputation procedures. Following other authors (esp. Currie, Decker, and Lin 2008), we use the first of the five imputed values for our analysis.
Region of residence	NHIS Persons	REGION	
Ever told has asthma or emphysema, or told had chronic bronchitis during past 12 months	NHIS Sample Adult	EPHEV, AASMEV, CBRCHYR	
Ever told you had cancer	NHIS Sample Adult	CANEV	
Ever told you had diabetes (excluding gestational diabetes)	NHIS Sample Adult	DIBEV	If respondent reported "borderline" this was coded as "no."
Ever told had an ulcer	NHIS Sample Adult	ULCEV	
Ever told had heart trouble	NHIS Sample Adult	CHDEV, ANGEV, MIEV, HRTEV	Source variables indicate whether respondent ever told had coronary heart disease, angina pectoris, heart attack, a heart condition or heart disease. If respondent had missing values for any of these source variables, we code this variable as missing.
Told had any kind of liver condition during past 12 months	NHIS Sample Adult	LIVYR	
Told had weak or failing kidneys during past 12 months	NHIS Sample Adult	KIDWKYR	
Ever told had a stroke	NHIS Sample Adult	STREV	
Serious mental illness	NHIS Sample Adult	SAD, NERVOUS, RESTLESS, HOPELESS, WORTHLS, EFFORT	Serious mental illness is identified as a Kessler 6 score >=13. Code each Kessler 6 scale measure such that points are assigned as follows: 4=All the time, 3=Most of the time, 2=Some of the time, 1=None of the time. Sum scores for each of the six measures to construct composite score of 0-24. If individuals are missing information for any of the six input variables, we code their Kessler score as missing.
Health and Activity Limitation Index	NHIS Persons	PHSTAT, PLIMANY, PLAWKLIM, PLAWKNOW, PLAIADL, PLAADL	Code index variable following instructions and formula found in Erickson et al. 1995. Activity limitation status is combined with perceived health status to determine value of index, which ranges from 0.10 to 1. Activity limitation is defined using questions about a person's ability to perform activities of daily living (ADL), instrumental activities of daily living (IADL), major activities in terms of work or housework, and any other reported limitations. Code according to standard BMI cutoffs for each weight category.
Body weight (underweight, normal, overweight, obese)	NHIS Sample Adult	BMI	
Smoking status (current, former)	NHIS Sample Adult	SMKSTAT2	Classified "smoker, current status unknown" as current smoker.
Alcohol consumption (abstainers, light/medium drinkers, heavy drinkers)	NHIS Sample Adult	ALCAMT	Define drinking patterns differently for men and women following Zarkin et al. (2004). Code light and moderate drinkers as having 1-3 drinks for men and 1-2 drinks for women on days drank. Code heavy drinkers as having 4+ drinks for men and 3+ drinks for women.
Visited hospital emergency room during past 12 months	NHIS Sample Adult	AHERNOYR (1997-1999) AHERNOY2 (2000-2008)	
Stayed in hospital overnight during past 12 months (excludes overnights in ER)	NHIS Persons	PHOSPYR	
Received care from health professionals 10+ times during past 12 months	NHIS Persons	P10DVYR	
Has usual source for sick care	NHIS Sample Adult	AUSUALPL	Create indicator for persons indicating there is one or more places they go for sick care.
Health insurance status (any private, public, uninsured)	NHIS Persons	MEDICARE, MEDICAID, PRIVATE, MILITARY (1997-2007), MILCARE (2008), OTHERPUB (1997-2007), OTHPUB (2008), OTHERGOV (1997-2007), OTHGOV (2008), CHIP (1999-2003), SCHIP (2004-2008)	Code according to definition used in the MEPS (military coverage is considered private). Follow NHIS documentation and do not consider Indian Health Services as coverage. Code missing for any respondents with missing values for one or more of the source variables.
Ever been uninsured during the past 12 months	NHIS Persons	HINOYR	

Table A2. Discriminative Ability for Insured Sample by Type of Predictor: *c*-statistic

	High ER	Any Hospitalization	High Cost
Baseline model	0.615 (0.545, 0.643)	0.632 (0.544, 0.624)	0.646 (0.599, 0.691)
Baseline + conditions	0.674** (0.597, 0.691)	0.644** (0.568, 0.649)	0.668* (0.625, 0.711)
Baseline + mental health	0.625 (0.550, 0.656)	0.635 (0.550, 0.634)	0.661* (0.615, 0.699)
Baseline + access	0.630 (0.553, 0.650)	0.642 (0.540, 0.622)	0.648 (0.607, 0.695)
Baseline + behaviors	0.640* (0.551, 0.652)	0.639* (0.552, 0.636)	0.655* (0.613, 0.696)
Baseline + HRQOL	0.663** (0.605, 0.707)	0.661* (0.577, 0.664)	0.701** (0.653, 0.746)
Baseline + prior utilization	0.670** (0.616, 0.711)	0.670** (0.607, 0.691)	0.717** (0.676, 0.758)
Baseline + conditions + HRQOL	0.690** (0.610, 0.712)	0.656** (0.581, 0.667)	0.701** (0.656, 0.745)
Baseline + conditions + prior utilization	0.700** (0.625, 0.721)	0.663** (0.606, 0.696)	0.718** (0.673, 0.760)
Baseline + HRQOL + prior utilization	0.694** (0.640, 0.730)	0.678** (0.609, 0.696)	0.728** (0.685, 0.771)
Baseline + conditions + HRQOL + prior utilization	0.711** (0.635, 0.727)	0.667** (0.608, 0.696)	0.725** (0.681, 0.762)

Notes: N=2,308 for validation sample. 95% confidence intervals in parentheses.* indicates that *c*-statistic differs from base model at $p < 0.05$; ** indicates that *c*-statistic differs from base model at $p < 0.01$.