Measuring Medical Care Economic Risk: An Assessment of Data Sources

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Considerations in This Review

- **While the design of a medical care risk index (MCRI) need not be constrained by currently available data, any such measure produced in the next few years must be based almost exclusively on data collected currently**
  - **Adding a modest number of new items to an existing survey is possible**
  - **Funding to support significant additions is not available**
- **The panel sponsor, ASPE, has indicated:**
  - **MCRI should be constructed from variables available in the Current Population Survey Annual Social and Economic Supplement (CPS ASEC) to allow direct comparison to the new supplemental poverty measure (SPM)**
  - **Medical Expenditure Panel Survey (MEPS) should serve as the data source for modeling medical care risk, with results transported to the CPS ASEC through common variables**

Factors Affecting Data Requirements

- **Alternative design choices**
  - Retrospective versus prospective measurement of risk
  - Whether resources include assets or only income
- **Development versus production of the MCRI**
  - Development requires data that, ideally, will support alternative measures and enable evaluation
  - Longitudinal data would be valuable for evaluation and validation—especially with a prospective measure
  - Production requires data to support one, not multiple measures; but timeliness, representativeness, and statistical precision become more important

Measures of Resources

- **CPS ASEC is the official source for estimates of income and poverty for the U.S. population and will also be used to construct the SPM**
  - **Includes official measure of *money* income—used to estimate poverty**
  - **Also provides the measure of *disposable* income that will be used in the SPM**
    - Some components imputed or modeled
    - Medical out-of-pocket expenditures and certain other components were added to the survey in 2010
- **CPS ASEC collects no asset data of any kind**
  - **Adding questions to collect, at a minimum, financial assets would be preferable to imputation, but quality of data cannot be assured without careful testing**
  - **Good asset data are most important for people with low income relative to their medical needs/risk**

Measures of Resources cont'd

- MEPS collects sources of income that correspond reasonably closely to CPS concept of money income
  - MEPS income questions follow the federal tax form and include capital gains and state tax refunds, which are not counted in CPS money income
  - Respondents who refer to their tax returns would omit portions of earnings and possibly social security benefits excluded from taxation
- MEPS collects fewer of the expenses that differentiate money income from disposable income; like the CPS, however, MEPS does not capture taxes paid (or EITC received)
- Unlike the CPS, MEPS collects data on assets
  - Assets are divided into six broad types; amounts are collected for all six

Measures of Medical Care Risk

- **CPS ASEC added medical out-of-pocket expenditures in 2010; data compare favorably to MEPS and SIPP despite the more detailed measurement in these other surveys**
- **CPS ASEC collects sources of health insurance coverage in "past year" but no additional information on what expenditures are covered**
- **CPS ASEC also collects basic work and activity limitations and general health status—potentially useful in defining risk groups and matching to MEPS**

Measures of Medical Care Risk cont'd

- **MEPS collects extensive data on:**
  - **Health conditions**
  - **Health status**
  - **Use of medical services**
  - **Charges and payments**
  - **Access to care**
  - **Health insurance coverage over time**
- **MEPS can support retrospective or prospective measures of medical care risk**

Data Quality

- **Limited information on data quality suggests some areas where improvement would be desirable**
- **Despite its overall strength, CPS ASEC income data have notable weaknesses**
  - **Reporting of retirement income other than Social Security is well below SIPP, which falls short of CPS ASEC on most other sources**
  - **SNAP (formerly food stamp) benefits—received by 15 percent of population—may be understated by nearly one-half**
  - **Nonresponse to income questions is high; 30 percent of total income is imputed**
    - If imputation procedures do not account for covariates of medical risk, the MCRI is weakened
- **Limitations of CPS ASEC health insurance measures are well known**

Data Quality cont'd

- Measures of medical service use, and medical out-of-pocket expenditures in MEPS are unique in their detail; MEPS data set the standard, but there is little out there to compare to MEPS
- Because of MEPS' panel design, attrition may be the principal concern; are persons with high medical risk overrepresented among attriters?
- After tracking the estimates from the National Health Interview Survey and CPS ASEC for most of the last decade, MEPS uninsured rates for adults and children rose sharply in 2007 and 2008 while the other surveys showed stable or declining rates

Other Surveys--SIPP

- **Panel on Poverty and Family Assistance viewed SIPP as survey of choice for a new poverty measure**
  - **SIPP had been designed expressly to support policy analysis**
  - **SIPP collected more detailed income data than any other federal survey; quality of these data was almost uniformly high**
  - **SIPP design, with collection of substantial core data in every wave and supplemental topical modules with varying content was ideally suited to a new poverty measure that would require new data but not in every wave**
- **A decade later the view was different**
  - **1996 redesign replaced overlapping panels, critical to consistent cross-sectional representativeness**
  - **Evidence of deterioration in income and asset data emerged**
  - **Timeliness issues and repeated budget/sample cuts detracted from the stability needed to support a key national indicator**

Other Surveys—SIPP cont'd

- **SIPP was terminated in 2007 but then restored in response to objections from users**
  - **2004 panel extended but with sample cut of one-half and without topical modules**
  - **New panel started in 2008; will continue until replaced by a re-engineered SIPP to be fielded in early 2014**
- **Design of re-engineered SIPP**
  - **Annual interviews will replace the three-time yearly interviews**
  - **Event history calendar methods will be used to collect monthly data with 12-month recall**
  - **Most of SIPP core content retained; key items from annual topical modules—such as assets and medical and work-related expenditures—will be added to annual interviews**

Other Surveys—SIPP cont'd

- **Issues in using SIPP for development or initial production of MCRI**
  - **To monitor implementation of health care reform, MCRI must be in production before we see first new SIPP data**
  - **Initial, small sample tests of new design are encouraging, but we cannot fully assess the survey as yet**
  - **Nonoverlapping panels, if maintained, do not address declining representativeness over time with current design**
  - **SIPP's funding history and current budget climate raise concerns about sustained funding**
  - **Current SIPP, with panels longer than MEPS, could play role in evaluating a prospective MCRI**
    - Does the subsequent experience of subpopulations match their estimated risk?
    - Where and why do deviations occur

American Community Survey (ACS)

- Attractive because of large sample size: 2 million households interviewed each year would offer unmatched geographic detail
- Captures similar kinds of content to CPS ASEC but more limited in depth
- Areas where ACS data are richer than CPS ASEC are not relevant to MCRI
- ACS questionnaire will not be open to new items for several years, and contents are restricted by law
- Bottom line: ACS does not provide a viable option for developing or producing an MCRI

National Health Interview Survey (NHIS)

- NHIS provides sampling frame for MEPS; is larger, and most content released on a more timely basis
- NHIS collects detailed information on health status, which could enrich a prospective measure of risk
- On most other possible components of an MCRI, NHIS data are more limited than MEPS or nonexistent
- Because NHIS provides the frame for MEPS, NHIS data can be linked to MEPS sample records; thus NHIS would add no new content
- Bottom line: NHIS by itself is not an option for developing or producing an MCRI

Conclusion

- Questions about data sources reduce to what is collected in two surveys: CPS ASEC and MEPS
- MEPS collects essentially all data elements needed to construct alternative versions of MCRI where CPS ASEC is missing critical variables for certain variants
- Yet CPS ASEC will be used to produce the new SPM, to which the MCRI is intended as a companion measure
- Having both measures in the same survey would allow researchers to compare and contrast how families and individuals are classified by the two measures
- Such comparisons may be helpful in establishing the value added by an MCRI

Conclusion cont'd

- **Other advantages of CPS ASEC**
  - **A CPS-based MCRI could be released concurrently or shortly after SPM or 10 to 11 months after end of survey reference period (prior calendar year); MEPS would require an additional year**
  - **CPS ASEC sample size is five times the largest recent MEPS sample**
  - **CPS ASEC sample combines independent, representative samples of the 50 states and DC; state estimates, while lacking in precision, could be important in monitoring implementation of Affordable Care Act**
- **A prospective MCRI would depend on data collected in MEPS; these data would have to lag a year or release of MCRI be delayed a year**
- **Data and methodology should be reassessed within a few years of implementation**

For More Information

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