Using CMS Data for Research on Disparities in Health and Health Care

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Overview

- Review reminders and issues concerning CMS data
- Medicare
- Medicaid (MAX)
- MMLEADS
- Surveys
- Assessment data
Reminders

- **CMS is a payor, an “insurance ‘company’”**
  - Administrative data

- **Some survey/registry linkages, assessment data**

- **Research-friendly/friendlier files (e.g., MAX, MMLEADS) shorten learning curve**
  - Different files/data sources have various levels of user-friendliness, data restrictions versus granularity
  - Still caveats for administrative data, e.g.:
    - Rely on FFS for complete claims
    - Use services=proxy diagnosis; lack of services ≠ lack of condition...and measurement error/bias depends on the condition or treatment (e.g., obesity/bmi)
    - No lab values, only certain uses for quality, etc.
Documentation and understanding of context can be important: examples

- **Changes in race/ethnicity**
  - Medicare: Changed greatly between 1970s and 1990s, other updates since (upcoming slides)
  - Medicaid/MAX has also changed i.e., option of >1 race/ethnicity, reporting race separate from ethnicity

- Variables often come from other sources, may have only been carried over recently from those sources, those sources may have changed their own data procedures, etc.

- “Missing,” “unknown,” often mean something beyond random missing

- **Other differences, e.g., by state**
  - revenue center codes not used for some states– affects MAX
  - FFS as a proportion of total Medicare varies by state– potential bias related to Medicare advantage enrollment
Note on Data File Privacy Levels

- Different privacy levels for CMS files:
  - RIF (research-identifiable files - most-protected and most restricted level)
  - LDS (limited datasets)
  - PUF (public use files)

- Use minimum privacy level, minimum specific files, and minimum analytic cohort to answer your questions—should reflect in your data request/application

- Upside: Since the variables we’re discussing in looking at disparities are typically “status” variables, they generally are available in RIF, LDS, surveys, and assessment data (very limited in administrative-based PUFs)

- There are some differences from RIF vs LDS versions of files, so be sure to check

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Medicare

- Race: conventionally taken from SSA
  - But can also see fill-ins/adjustments
    » RTI based on first and last name algorithms; IHS
- In Master Beneficiary Summary – BASE (A/B/D) file:
  - RACE (Unkn, Wh, Bl, Other, Asian, Hispanic, NAmNative)
  - RTI_RACE_CD (Unk, N-H Wh, Bl (or Afr-Am), Oth, Asian/Pac Isl, Hisp., Amer Ind / AK native)

- Race available in other files, but see documentation re: RACE vs RTI_RACE and other variables, especially across RIF [privacy protected/most secure] versus LDS [less restricted but in some cases less granular] files
Medicare, cont’d

- Other status vars of interest for disparities in Medicare Beneficiary Summary File- Base A, B, D, as well as LDS Denominator file, e.g.:
  - Sex
  - Reason for entitlement (Medicare: 65+ age, Disability benefits (DIB), ESRD, DIB + ESRD)
    - Current reason: CREC
    - Also MS_CD: (ESRD by aged/disabled or alone)
    - OREC: ORIGINAL reason for entitlement
  - State, County, Zip
    - For disparities by Rurality: can obtain State/County to CBSA crosswalk file at CMS.gov—those not linked to CBSA are rural
  - Dual status (Medicare/Medicaid): 2006 forward in MBSF (available all years in MAX Personal summary file).
    - DUAL_MO (# months)
    - Monthly categorical, across multiple plans, with categories for various programs (e.g., QMB or SLMB plus Medicaid including Rx, QMB only, SLMB only, others...)

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Reminder

- 5% random sample from Medicare
- May be useful, resource-efficient
- However, consider cell sizes and smaller racial grps (e.g., Native American/American Indian/Alaska Native...depending on the variable you use)
- CMS has limits on even aggregated tables if they have a cells of <11 people
  - May need to omit TWO smallest cells... deleting only one cell might still indicate where <11 people are
Medicaid
MAX (Medicaid Analytic eXtract)

Personal Summary (PS) file
- Race/ethnicity (from state files)
  - White, Black/Afr. American; American Indian/AK Native; Asian or Pacific Islander; “Hispanic/Latino- no race avail”; Native Hawaiian/Other Pacific Islander; Hispanic/Latino and one or more races; >1 race; Unknown
- Race/ethnicity from Medicare enrollment files (for dual eligibles only)
- Language code (from Medicare, also for duals only – based on the language that the SSA uses in mailings)
- MAX uniform eligibility code may be useful (e.g., EL_MAX_ELGBLTY_CD_LTST)
  - Monthly or annual (most recent/last) combination of status variable and maintenance assistance status/MAS, e.g.: “32=Blind/Disabled, poverty”; 25=“Adult, medically needy”
- County/zip code of residence
- Eligibility measures: Medicaid eligibility by month; Dual status; 1915(c) waiver types (HCBS); Private insurance indicators monthly
- Pay attention to managed care enrollment – remember the caveat about FFS and complete claims
Side Note on Mini-MAX

- **Mini-MAX**
  - 5% cross-sectional sample (still RIF/privacy protected and restricted)
  - Available for 2008 only (no updates)
  - However, may be able to answer your questions without all the MAX data
  - Like 5% Medicare random sample, consider cell sizes
If you’re interested in duals, MMLEADS is the place to be

- Medicare-Medicaid Linked Enrollee Analytic Data Source
- Focused on dual eligibles
  - Includes all non-dual Medicare
  - All duals [Medicare+Medicaid]
  - Only some non-dual Medicaid: mainly those eligible due to disability and blindness because most similar to duals (e.g., excl. children and families)

- Medicare Beneficiary-level file and Medicaid Beneficiary-level file
  - Medicare- and MAX-based socio-demographic variables
  - Summary utilization measures

- Linked condition file
  - Expanded diagnosis flags (chronic conditions, mental health, disability-related conditions)
  - Diagnosis indicators based on algorithms applied across Medicare only, Medicaid only, or both

- Medicare service-level file and Medicaid service-level file
  - Utilization and costs by service setting categories (not service events as are in claims)
  - Good for some questions, not for others.

- RIF (like all RIF files, privacy protected and requires formal request process)

- SEE USER GUIDE AT CCWDATA.ORG – VERY HELPFUL
## CMS or Linkable Surveys

<table>
<thead>
<tr>
<th></th>
<th>HRS</th>
<th>MCBS</th>
<th>NHATS</th>
<th>HOS (Medicare Advantage)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Representative of:</strong></td>
<td>Americans over 50</td>
<td>Medicare beneficiaries</td>
<td>Medicare beneficiaries 65+</td>
<td>Samples MAOs with 500+ enrollees</td>
</tr>
<tr>
<td><strong>Cohorts/ Longitudinal panels?</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Repeated cross-sectional with single 2-yr follow-up</td>
</tr>
<tr>
<td><strong>Hispanic/Latino ethnicity asked separately?</strong></td>
<td>Y</td>
<td>Y</td>
<td>N (uses MBSF)</td>
<td>Y (and multiple Hispanic ethnicities in recent years)</td>
</tr>
<tr>
<td><strong>Multiple races possible in response?</strong></td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Other status vars (e.g., SES, living situation)?</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Collection</strong></td>
<td>Core: every 2 years</td>
<td>Yearly</td>
<td>Yearly</td>
<td>See cohorts</td>
</tr>
<tr>
<td><strong>Privacy level</strong></td>
<td>Survey: Public</td>
<td>LDS</td>
<td>NHATS itself: RIF</td>
<td>PUF, LDS, RIF</td>
</tr>
<tr>
<td><strong>Linkage to FFS R0IF administrative data?</strong></td>
<td>Parallel approvals; requires federal research funds</td>
<td>Application package to ResDAC</td>
<td>ResDAC helps with DUA application</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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CMS has several CAHPS surveys available

- Patient experience
  - key part of the health care triple aim
  - Not the same as “satisfaction”
  - Most importantly: May be a prime indication of disparities

- If you’re not familiar, much literature and many references out there on CAHPS-- can see cahps.ahrq.org; search CAHPS at cms.gov; etc.

- Hospital (HCAHPS), Home Health, FFS, Advantage, In-center hemodialysis, Nationwide adult Medicaid, others (and more in development)
Assessment Data
(MDS, OASIS: Privacy Protected/RIF Files)

- **MDS (Minimum Data Set)**
  - All residents in MDCR or MDCD-certified LTC and SNF facilities
  - MDS 2 1999-2010; MDS 3 2010-2012 (redevelopment, resident reports)
  - Similar race/ethnicity
  - Also: Marital status; need for interpreter (**A1100A** Need Interpreter); preferred language (**A1100B** Interpreter Language); and cognitive and functional assessments
  - See KnowledgeBase article on missing values in MDS at [www.resdac.org](http://www.resdac.org)

- **OASIS (Outcome and Assessment Information Set)**
  - Medicare Home Health services 1999-2012
  - Similar race/ethnicity categories
  - Also: Cognitive/decision making impairments (e.g., **M0220B**); obesity (**M0290E**); several environmental factors (e.g., **M0310C**-Stairs inside home must be used; **M0320F**-Inadequate Stair Railings); living situation and support system (**M0340x-M0350x**: e.g., IADL assistance, psychosocial support, paid help); zip code; health/functional status vars
Just a few examples for a sense of scope

  - National Medicare data 2007-2010

  - MAX data for 14 states

  - FFS Medicare enrollees entering nursing homes for SNF stays
  - MDS, Medicare enrollment and part A claims, MAX, other sources

  - Health and Retirement Study

  - Medicare Current Beneficiary Survey
Accessing Data (may include costs)

- For details, see ResDAC training materials and other material at resdac.org

- Non-identifiable process:
  - Download or very simple ordering process

- LDS Data request process:
  - Order form, Data Use Agreement, research protocol
  - With the exception of MCBS data requests, are not reviewed by ResDAC

- Research Identifiable File process
  - Details at ResDAC.org; data request packet
  - ResDAC will assist during preparation of any data request packet
  - ResDAC review required for ALL Identifiable Data Requests

- Request any materials from www.resdac.org: Data Request Center

- CMS Virtual Data research Center (VDRC)
  - Access to most RIF files, so requires application materials
  - Single annual charge for a user “seat”
  - See resdac.org for details
How to Contact the ResDAC Assistance Desk

- **Phone**
  - Toll free: 888-9ResDAC (888-973-7322)

- **Email**
  - resdac@umn.edu

- **WEB**
  - [www.resdac.org](http://www.resdac.org) (information)