CMS MDS and OASIS Assessment Data

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Agenda

- Define Minimum Data Set (MDS) and Outcome and Assessment Information Set (OASIS)
- Review uses of MDS and OASIS data
- Review relevant sections of MDS and OASIS; examples
- Discuss uses of MDS/OASIS with Medicare/Medicaid enrollment & claims data
What is MDS?

- Minimum dataset (MDS) is a uniform instrument to assess nursing home residents (skilled care & custodial care).
  - A part of the Resident Assessment Instrument (RAI) that originates from the nursing home reforms of the late 1980s.

- MDS is done in the first 14 days after admission and annually thereafter or when there is a significant change in status
  - A subset of MDS data must be collected quarterly

- MDS is completed mainly by staff and includes individual assessment items covering 17 areas, such as:
  - Behaviors and mood
  - Diagnosis/illnesses
  - Activities of daily living
  - Skin ulcers/skin conditions
  - Therapies provided
  - Weight, height
  - Medications
MDS: Historical Perspective

- The Omnibus Budget Reconciliation Act of 1987 (OBRA 87) was a landmark federal legislation which set national standards for care in skilled nursing facilities.

- Required that all nursing facilities participating in the Medicare and/or Medicaid programs use a standardized, comprehensive functional assessment system.

- 1991: the MDS was implemented to monitor and improve quality of care in nursing facilities.

- 1995: revised version, Version 2.0, was published; NHs were required to begin using it in January 1996.

- 2010: revised version, Version 3.0 was introduced.
MDS Snapshot

- For 5% Medicare sample:

  - 2012 MDS 3.0 has 1,053,000 assessments representing 194,595 beneficiaries.
    - MN has 19,995 assessments with 4,056 beneficiaries.
  
  - 2011 MDS 3.0 has 1,030,167 assessments representing 193,707 beneficiaries.
    - MN has 19,976 assessments with 4094 beneficiaries.
MDS Uses

- Primary purpose: patient assessment and care planning

- Other uses:
  - Survey sample/review
  - Nursing home evaluations (Nursing Home Compare website)
  - Monitor quality of care and develop quality measures reports
  - Medicare reimbursement
  - Medicaid reimbursement
Limitations of MDS 2

- Lack of attention to resident quality of life
- Need to improve clinical assessment
- Need to increase resident voice (nurses usually collected data from other sources)
- Higher risk of under-reporting of pain, mood, and depression
- Lack of standardized assessment protocols
MDS 3

- Introduced in 2010

- **Goals:**
  - Increase resident’s voice through more resident interview items
  - Increase user satisfaction (reduces time to complete by 45%)
  - Improve the accuracy (validity & reliability) of the tool
  - Increase clinical relevance of items
  - Increase discharge to community options
MDS 3 Significant Changes

- **Scripted resident interviews** required in four areas (cognition, mood, routine preferences, pain)
- **Behavior**
  - Revised language
  - Added operational definitions
- **Pressure ulcer**
  - Eliminated reverse staging
  - Adds present on admit
- **Balance**
  - Refocused on movement and transition
- **Falls**
  - Introduced type of injury
- **Bowel and bladder**
  - No longer rate catheter as continent
  - Improved toileting item
- **Activities of daily living**
  - Single response scale
- **Goals of care and return to community added**
- **Oral/dental item improved**
- **Swallowing item**
  - Checklist of observable signs and symptoms
- **Restraints**
  - Separated bed and chair

Source: Saliba, D (2008)
MDS 3: Interview Sections

Ask all residents capable of any communication about what’s important in their care:

- Section C-BIMS (brief interview for mental status)
- Section D-PHQ-9 (patient health questionnaire, mood)
- Section F-preferences for customary routines and activities
- Section J-pain assessment

- When resident interview is not possible, staff assessment is conducted.
- Assessments conducted/coordinated by RN.
- RN may delegate MDS completion to other clinical staff knowledgeable about resident.
Other Considerations

- Resident assessment at discharge; also report of death in a facility. Needs to be completed within 14 days.

- Look-back periods for some items have changed (e.g., mood items=last 14 days; pain items=last 5 days). Most items have 7 day look-back period.

- Significant change in status now required when hospice is chosen

- Discharge tracking requires an assessment

- Facility must transmit within 14 days of MDS completion date (used to be 31 days)

- Questions about the return to the community are inconsistently applied across states
Example 1

Do nursing home residents who transition to community have higher rates of avoidable hospitalizations compared to those who remained in the nursing home? (Wysocki et al. 2014)

- Data sources: MDS 2; Medicaid-person summary and utilization files (MAX files); Medicare claims files
- Sample: Dual eligible Medicaid-LTC users age 65 and older from 5 states
- Admitted to NHs in 2003, 2004, or 2005
- **Dependent variables**: potentially preventable hospitalizations for ACS conditions (identified by the primary diagnosis on the hospitalization claim); all hospitalizations
- Main IV: stayed in NH or transitioned into community
- Control variables: demographic, clinical or functional characteristics from MDS
- **Findings**: NH residents who were discharged to community had more preventable hospitalizations compared to those who remained in the NH

What is the role of payer type on hospice use among NH residents? (Miller et al. 2011)

- **Data sources:** NH resident assessment (MDS) data, Medicare Part A claims data for hospice, hospital, home health, outpatient, and SNF care, and Medicare enrollment data; NH characteristics from NH survey file (OSCAR)

- **Sample:** NH resident history from the 48 contiguous US states between 1999-2004 linked longitudinally to create a utilization history for all residents.

- **Dependent variables:** hospice enrollment in NHs

- **Control variables:** NHs annual case-mix severity index, NH percent occupancy, payer type (Medicare vs. Medicaid), staffing per day, rural vs. urban location, etc

- **Findings:** Payer type has a significant effect on hospice use in NH

- **POTENTIAL FOR NEW ANALYSES ON HOSPICE USE WITH MDS-3**

Opportunities and Challenges

- **New options with MDS 3**
  - Mental status analyses (BIMS, staff assessment, validated confusion assessment method)
  - Depression assessments (PHQ-9 replaced staff observations), allow for new analyses of the role of depression on various outcomes
  - Behavior and pain items (although these measures still need to be validated)
  - Continence, revised ADLs
  - Hospice analyses

- **Challenges around missing data, validation of new measures**
Home Health Care Assessment

- Medicare’s home health care benefit: beneficiaries with post-acute care needs and chronic conditions can receive skilled nursing therapy and aide services in their homes.

- To qualify, a beneficiary must be “homebound”, under a physician care, and require physical therapy, other therapy or skilled nursing on an intermittent basis.

- Home health agencies (HHAs) publicly report certain quality measures in the OASIS data set.
What is OASIS?

- The Outcome and Assessment Information Set (OASIS)—a group of 79 standardized medical, nursing, and rehabilitation data elements that represent core items of a comprehensive assessment for an adult home care patient.

- Patients are assessed using OASIS at different time points:
  - Admission or readmission to home health care (start of care or resumption after inpatient stay);
  - When there is any change of health status indicated by transfer to inpatient facility, death, or discharge from home care;
  - Every 60 days

- The data are encoded and electronically transmitted to the state agency.
  - Collection is done by a nurse or therapist
  - Includes observation of patient function, patient responses, and review of pertinent documentation (e.g., hospital discharge summaries) and measurement (e.g., would length and width)
OASIS: Historical Perspective

- The Omnibus Budget Reconciliation Act of 1987 (OBRA 87) required monitoring of Home Health Agencies
  - **Goal:** To learn more about the specific services provided during home health visits and how they impact patient outcomes. Also intended to improve Medicare oversight

- 1987: Congress required that the Health Care Financing Administration implement an outcomes-based monitoring system.

- 1999: Home Health Agencies (HHAs) are required to conduct OASIS. It applies to most private pay as well as Medicare and Medicaid patients (with an exception of the pre- or postnatal patients).

- 2010: new version, the OASIS-C, the first major update of the OASIS dataset since 1999.
What type of information does OASIS provide?

- Socio-demographic information
- Environment
- Patient history and diagnoses
- Support system
- Immunization status
- Living arrangements
- Sensory status (speech and hearing, pain)
- Pressure ulcers
- Cardiac status
- Neuro/emotional status
- ADLs/IADLs
- Medications
- Care management
- Therapy need and plan of care
- Emergent care use
- Healthcare utilization
OASIS Uses

- Forms the basis for measuring patient outcomes for the following purposes:
  - Outcome-based quality improvement by providing information to HHAs and consumers
    » Home Health Care compare measures reported:
      - Process measures (since 2010), outcome measures, potentially avoidable events (available since 2011)
      - Home health utilization measures based on Medicare claims data (since 2013)
        » Acute care hospitalizations
        » ED use with hospitalization
  - Enhancing the state survey process, and
  - Analyzing results for reimbursement under the prospective payment system
For 5% Medicare sample:

- 2012 OASIS has 861,598 assessments representing 258,240 beneficiaries.
  - MN has 9,705 assessments representing 2,979 beneficiaries

- 2011 OASIS has 861,090 assessments representing 255,346 beneficiaries.
  - MN has 9,118 assessments representing 2,858 beneficiaries.
Early Versions of OASIS

- **OASIS A, B, B-1**
  - Developed by the Center for Health Services and Policy Research at the University of Colorado
  - Funded by HCFA and the Robert Wood Johnson Foundation
  - Late 2007: the OASIS data set had moved into the public domain, and permission to copy or use was no longer required.

- **2006**: CMS contracted with Abt Associates and subcontractors at the University of Colorado Health Sciences Center and Case Western Reserve University in 2006 to revise the OASIS data set, resulting in OASIS-C

- **2010**: HHAs began using OASIS-C
OASIS-C: Main revisions

- 1. Improve ability to accurately measure patient status and show progress
   » Toileting ability now more detailed, new item on understanding verbal content (not just ability to hear)
   » Medications now a separate domain
   » Screening for depression, pain, falls risk, and pressure ulcers risk

- 2. Add items to support measurement of care processes and clinical domains
   » Agency implementation of interventions or other patient care practices
   » Assesses care management such as level of caregiver ability and willingness to provide assistance
   » Therapy need and plan of care

- 3. Update terminology and concepts
   » Pressure ulcers items revised to reflect measures used in other settings
   » Cardiac status includes process measures such as symptoms of heart failure, medical follow-up

Certain items were also eliminated so if doing longitudinal analyses, check for consistency.
What are predictors of hospitalization among home health patients?

- 2011 review of the literature found only 6 studies using OASIS data to address this question (Enguidanos et al. 2011)
- Of the studies that exist, many use state-based data (e.g., Ohio), use data before Medicare PPS, or often did not include staff-related measures
- Findings show associations between demographic predictors, insurance type, previous medical care visits, functional status, and other health-related predictors.
- More research is needed on this topic and could benefit from new variables in OASIS-C, including process measures
Opportunities and Challenges

- **Under-use of OASIS data until recently**
  - Sales et al. 2012 review of the literature: few peer-reviewed studies using OASIS data

- **More detailed examination of adverse events in homecare using OASIS data**
  - over 13 types of adverse events: emergent care use, development of UTIs, increase in number of pressure ulcers, unexpected NH admission, discharge to community needing wound care, unexpected death)

- **State-based analyses in response to policy changes; Intervention research**

- **Use of the revised ER use (and reasons) and hospitalizations items; also expansion of patient diagnoses (e.g., gait speed)**

- **OASIS has been identified as primary outlet to study infections (Shang et al. 2015)**

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Opportunities and Challenges, cont.

- Generally high level of inter-rater reliability (Madigan & Fortinsky, 2002) but some inconsistency is reported for select individual items (e.g., ADLs).

- Some studies also report differences between scores provided by nursing staff compared to rehabilitation staff; Arthur, 2007)
  - Most of this work was done with OASIS B; need updated analyses for OASIS C.

- Concerns remain about the validity of certain measures since new revisions
  - ADL composite score (the functional items were not developed for scale scoring)
  - Infection measures compared to Medicare files to confirm accuracy
  - OASIS depression items are not sufficiently sensitive to the prevalence of these conditions (Tullai-McGuinness & Madigan, 2009). However, this was an analysis of OASIS B; new analyses need to be done with OASIS C.
  - Concerns about the validity of IADL items (due to scoring with many subjects who are severely impaired). Again, needs to be examined in OASIS C.
Conclusions

- Opportunities in using assessment data with Medicare data
- Working with ResDAC
- Questions?