Population Health Management for Long-Stay Nursing Home Residents

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Harvard Medical School
December 10, 2019
Emergency Department (ED) Use/Hospitalizations of Long-Stay Nursing Home (NH) Residents…

• Frequent
• Costly
• Often avoidable
• Can lead to worse health outcomes
Why so many avoidable hospitalizations?

A patient vignette…
Patient Example: “Ms. B”

90 years old; lives in a nursing home; dual eligible

- Moderately advanced Alzheimer’s disease
- Congestive heart failure with severe left-ventricular dysfunction
- Chronic pain from degenerative joint disease

Ouslander and Berenson, NEJM 2011
Patient example (cont.)

• Under traditional payment and delivery model, Ms. B has:
  o Three ID cards: Medicare, prescription drugs, and Medicaid
  o Three different sets of benefits
  o Multiple providers (NH, MDs, Therapists, hospital) who rarely communicate

• Healthcare decision uncoordinated and not made from person-centered perspective
• Ms. B develops a nonproductive cough and a fever of 100.4°F

• Treatable in the NH, but in the typical scenario, she is going to the hospital

• Why?
Factors and Incentives in the Decision to Hospitalize NH Residents

- Medicare and Medicaid Reimbursement Policies
- Resident and Family Preferences
- Availability of Advance Care Plans and Orders for Palliative or Hospice Care
- NH Culture, Legal Liability, and Regulatory Sanctions for Managing Acute Illnesses in the NH
- Knowledge and Skills of NH Staff
- Availability of On-Site Medical Care and Ancillary Services (Lab, Pharmacy, etc.)
Payment and Delivery Failures

• **Payment failure:** Medicaid pays for NH care but does not share in any Medicare savings associated with reduced ED visits/hospitalizations

• **Delivery failure:** NHs not incentivized to invest in clinical infrastructure and expertise to manage residents safely in NH setting
Path to Reform

Delivery

<table>
<thead>
<tr>
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<th>Status quo</th>
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Global payment
Path to Reform

Delivery

Coordinated

Fragmented

Payment

Telemedicine

Status quo

FFS

Global payment
Path to Reform

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FFS Global payment
Path to Reform

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- Coordinated
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Payment

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Global payment
# Path to Reform

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- FFS ➔ Global payment
Institutional Special Needs Plans (I-SNPs)

- Special type of Medicare Advantage plan targeted to long-stay (>90 days) NH residents

- Relaxes 3-day hospital stay requirement ( ! )

- Goals
  - Align incentives of Medicare and nursing home
  - Facilitate care delivery in most appropriate setting
  - Improve care delivery & management across settings
Managed Care for Long-Stay Nursing Home Residents: An Evaluation of Institutional Special Needs Plans

Brian E. McGarry, PT, PhD, and David C. Karwowski, PhD

Managed nursing home residents experience poor access to clinical care, which leads to unmet healthcare utilization and poor health outcomes. In long-term nursing home residents who do not have access to the care they need, the care is typically entirely financed by Medicaid or paid out of pocket. However, all of their health care, including physician, hospital, pharmacy, and hospice care, as well as prescription drugs, is covered by Medicare. Thus, nursing home typically have minimal reimbursement costs to Medicare and are frequently more cost-effective for the payer of long-term nursing home care who are covered and capitated from different hospital and pharmacy networks. This is significant to the Medicare program.

Medicare Advantage (MA) which replace traditional Medicare fee-forservice (FFS) coverage with a managed care model, has increased and now enrolls a large number of Medicare beneficiaries. Because MA plans are "at risk" for all healthcare spending, they have an aligned incentive to control clinical care in the nursing home.

The basic model of the MA plan is paid on a capitated basis by CMS and constructs provider networks that would otherwise be submitted in CMS for FFS to pay per cap. Long-term nursing homes are covered by Medicare equal payment but the MA plan can financially responsible for a significant portion of administration, organization of nursing, therapeutic specialty care, and other services for patients that Medicare does not cover or a special needs beneficiary who is long term care (LTC) nursing home residents are excluded from nursing home (NHs).

In 2017, ELNH beneficiaries annually were enrolled in these plans, which is relatively small share of the dollars Medicaid long-term nursing home residents.

However, these plans have an incentive to identify the financial incentive of the long-term Medicare and Medicaid in the nursing home setting. The theories are similar: increase in revenue, increase in cost, and decrease in overall nursing facility occupancy.

All of these plans include a model of care—formally known as the Harvard model—where patients receiving care in the nursing home through the use of advanced practitioners like nurse practitioners and physician assistants. These non-licensed clinicians coordinate and deliver care as clinicians without being responsible for the Medicare program.
UnitedHealthCare (UHC) I-SNP

• Formerly known as Evercare model

• Provides enhanced care in NHs through use of onsite advanced practice clinicians (NPs/PAs)
Advanced Practice Clinicians…

• Provide primary, acute, preventative care
• Establish comprehensive care plan
• Conduct biannual assessments and monthly routine visits
• Facilitate family care conferences to help address medical, behavioral & social needs
• Establish goals of care
• Coordinate care with PCP & specialists
• Manage various therapies
Study Details

• We compared health care utilization (SNF, hospitalizations, ED) for 8,052 UHC I-SNP members versus 12,982 traditional Medicare long-stay NH residents

• Focused only on members of “mature” I-SNPs in 13 states

• Matched samples on state of residence, demographics

• Limitation: cross-sectional (descriptive) analysis
I-SNP members had 51% lower ED use, 38% fewer hospitalizations, and 45% fewer readmissions, whereas their SNF use was 112% higher.

**TABLE 3. Differences in Utilization Across I-SNP and FFS Medicare Beneficiaries**

<table>
<thead>
<tr>
<th>Utilization Measure</th>
<th>Unadjusted Differences</th>
<th>Adjusted for Demographics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I-SNP</td>
<td>FFS</td>
</tr>
<tr>
<td>Inpatient stays per 1000 residents</td>
<td>288</td>
<td>524</td>
</tr>
<tr>
<td>30-day readmissions per 1000 inpatient stays</td>
<td>167</td>
<td>334</td>
</tr>
<tr>
<td>ED visits per 1000 residents</td>
<td>218</td>
<td>452</td>
</tr>
<tr>
<td>SNF stays per 1000 residents</td>
<td>481</td>
<td>253</td>
</tr>
</tbody>
</table>
FIGURE. Actual Medicare Expenditures per 1000 Long-term Nursing Home Residents in FFS Medicare Versus Projected Expenditures Based on Utilization of I-SNP Beneficiaries

- **Inpatient**
  - FFS Medicare: $7,559,500
  - I-SNP: $4,586,890

- **ED**
  - FFS Medicare: $174,034
  - I-SNP: $353,682

- **SNF**
  - FFS Medicare: $1,245,574
  - I-SNP: $2,645,558
Key Takeaways

• I-SNP beneficiaries had lower rates of ED/inpatient use & higher SNF use

• I-SNPs can help align incentives between Medicare and nursing homes in delivery of clinical care
Challenges Going Forward

• Will residents enroll in these models?

• Will these results extend to other quality measures?

• Can these models save Medicare $$?
Patient Vignette Revisited

Imagine Ms. B with an integrated model of care under an I-SNP:

- Comprehensive benefits: primary, acute, drugs, LTC
- Coordinated provider team; comprehensive individualized care plan
- Health care decisions based on Ms. B’s needs/preferences
Thank You

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Aligning Payment: Necessary but Not Sufficient

David Gifford MD MPH
Chief Medical Officer
Mindset Model

The Arbinger Institute: Mindset Model
Improving Physician – Nurse Communication
RN-MD communication

- Communication between MD and RN is often the leading factor impacting
  - Hospitalization and ER use
  - Medication prescribing
  - Laboratory & radiology tests
  - Family satisfaction
  - Liability

NURSE PRACTITIONER
Factors Associated with low rehospitalizations

• 47 Nursing homes in NY (N=26,746 patients)
• Measured Clinical and non-clinical factors associated with rehospitalization rates
• Three strongest predictors
  #1 Training provided to nursing staff on how to communicate effectively with physicians about a residents condition
  #2 Physicians who practice in this nursing home treat residents within the nursing home whenever possible, saving hospitalization as a last resort
  #3 Provided better information and support to nurses and aides surrounding end-of-life care

Quality Focus

- Hospital utilizations (at any time from anywhere for any reason)
  - Hospitalizations
  - Emergency room visits

- Medication utilization
  - At risk medications (e.g. Beers)
  - Antipsychotics
  - Antibiotic stewardship (e.g. UTIs, cellulitis, URIs, bronchitis, etc)

- End-of-Life counseling

- Customer Satisfaction
  - There is no CHAPS approved questionnaire for LTCF population
  - CoreQ is only NQF endorsed measures for AL and NF
Adverse Events in Long-term Care Residents Transitioning From Hospital Back to Nursing Home

Alok Kapoor, MD, MSc; Terry Field, DSc; Steven Handler, MD, PhD, CMD; Kimberly Fisher, MD, MSc; Cassandra Saphirak, MA; Sybil Crawford, PhD; Hassan Fouayzi, MS; Florence Johnson, RN; Ann Spenard, DNP, RN-BC; Ning Zhang, PhD; Jerry H. Gurwitz, MD

Figure. Frequency of Adverse Events by the Number of Days Elapsed Following Hospital Discharge
## Table 3. Frequency of Events Grouped by Type of Event

<table>
<thead>
<tr>
<th>Event</th>
<th>Overall (n = 379)</th>
<th>Preventable/Ameliorable (n = 267)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health care-acquired infections, frequency (%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catheter-associated urinary tract infection</td>
<td>22</td>
<td>5</td>
</tr>
<tr>
<td>Respiratory infection</td>
<td>45</td>
<td>13</td>
</tr>
<tr>
<td><em>Clostridium difficile</em> infection</td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>Surgical/procedural site infection</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Blood stream infection/sepsis</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>14</td>
<td>11</td>
</tr>
<tr>
<td><strong>Event related to resident care, frequency (%)</strong></td>
<td>197 (52.0)</td>
<td>173 (64.8)</td>
</tr>
<tr>
<td>Fall with injury</td>
<td>38</td>
<td>34</td>
</tr>
<tr>
<td>Skin tear, abrasion, or breakdown</td>
<td>40</td>
<td>37</td>
</tr>
<tr>
<td>Pressure ulcer</td>
<td>56</td>
<td>53</td>
</tr>
<tr>
<td>Cardiogenic volume overload</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Respiratory distress/failure</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Dehydration/AKI</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Confusion/delirium</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Delay in diagnosis or treatment</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Other (eg, bruise, bowel obstruction, UTI, VTE, incontinence, resident self-harm)</td>
<td>27</td>
<td>23</td>
</tr>
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<tr>
<td>Event related to medication, frequency (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allergic reaction</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Delirium or other change in mental status</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>Hemorrhagic</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Infection</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Other (eg, AKI, hematologic, hypoglycemic events, hypotension)</td>
<td>29</td>
<td>22</td>
</tr>
<tr>
<td>Event related to procedures, frequency (%)</td>
<td>10 (2.6)</td>
<td>6 (2.2)</td>
</tr>
</tbody>
</table>

Abbreviations: AKI, acute kidney injury; UTI, urinary tract infection; VTE, venous thromboembolism.

*Physician reviewers may have assigned more than 1 type of event related to medication; therefore, the categories were not mutually exclusive.*
Focus on End-of-Life
Rehospitalization Marker of Increased Mortality

Hospitalized beneficiaries who have an early hospital readmission nearly 3 times more likely to die within 1 year (one-year mortality = 38.7% vs patients who were not readmitted = 12.1%; p<0.001); Lum et al. J Gen Intern Med 2012; 27(11): 1467-74.
Mobility levels following hospitalization

- Green line: hospitalized for major surgical procedure
- Blue line: hospitalized for non-surgical reasons

6 month Survival after ICU care

Does End-of-Life Counseling help?

• Study\(^1\) to evaluate if for patients with three or more hospitalizations in the past 6 months, a palliative care consultation could help
  • Identify realistic goals of care and address barriers to discharge home;
  • Determine whether rehospitalization was consistent with the patient’s goals of care or if worsening symptoms would best be managed in the SNF, long-term care, or at home.

• Results
  • Rehospitalization declining by 19.4% (from 16.5% to 13.3%)
  • Discharges to home increased by 6.4% (from 68.6% to 73.0%)
  • Patients were more 2.45 times more likely to die in the SNF vs hospital

\(^1\)JAGS 59:1130–1136, 2011
Is HEDIS Right For You?
Healthcare Effectiveness Data and Information Set

<table>
<thead>
<tr>
<th>HEDIS measure categories</th>
<th>Total</th>
<th>Peds</th>
<th>Excluded</th>
<th>NA(^1)</th>
<th>LTC OK?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Effectiveness of Care</td>
<td>47</td>
<td>11</td>
<td>9</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>• Access/Availability of Care</td>
<td>6</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>• Utilization</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>• Risk Adjusted Utilization</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>• Using Electronic Clinical Data Systems</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
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\(^1\) NA – measures likely not applicable to the LTC population
For HEDIS 2019, the following nine measures exclude individuals 65 and older who have an advanced illness and frailty or who live long-term in nursing home settings. Four of these measures also exclude those age 80 and older with frailty.

- Breast Cancer Screening.
- Colorectal Cancer Screening.
- Comprehensive Diabetes Care.
- Controlling High Blood Pressure.
- Disease-Modifying Anti-Rheumatic Drug Therapy for Rheumatoid Arthritis.
- Osteoporosis Management in Women Who Had a Fracture.
- Persistence of Beta-Blocker Treatment After a Heart Attack.
- Statin Therapy for Patients with Cardiovascular Disease.
- Statin Therapy for Patients with Diabetes.
CoreQ Satisfaction Measure for LTC

Getting to the core of customer satisfaction in skilled nursing and assisted living.