MINNESOTA LTSS PROJECTION MODEL: MN-LPM

Preliminary Results

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  • John Cutler and John O’Leary
Minnesota’s aging population continues to grow as baby boomers age

Historical and Projected Population Shares By Three Major Age Groups, Minnesota, 1950-2050

Source: U.S. Census Bureau, decennial census, and Minnesota State Demographic Center Projections.
Minnesota’s use of Nursing Facilities has declined over time

Use of Nursing Facilities by Medicaid Enrollees

Decline of 9,354 Medicaid enrollees from 27% to 20% between 2011 and 2016

Source: SHADAC analysis of MMIS, 2011-2016
OVERVIEW OF THE MODEL
General Overview

• Our model:
  • projects the use and costs of LTSS for MN’s Medicaid elderly population \((\text{excludes disabled population under age 65 and acute care services})\)
  • allows for estimating impact on costs of key policy interventions

• We prioritize the use of MN-specific data
  • And when not available, we adjust national data to Minnesotans’ characteristics

• Baseline: 2015

• Projections: 2020 and 2030
Data Sources

• Main data sources:
  • Minnesota’s Medicaid Management Information System (2014-2016)
  • American Community Survey, five-year file (2015)

• Secondary data sources:
  • Health and Retirement Study (2000, 2006, and 2014)
  • Minnesota Health Access Survey (2015)
  • Survey of Older Minnesotans (2015)
  • Behavioral Risk Factor Surveillance System (2015)
Projection framework

Mortality

ADL
Low cognition
Chronic

Medicaid Eligibility

LTCi

Nursing Facility Residency ↔ Home & Community Based Services
Example

CY 2015

- **Cohort 42 (70,000)**
  - 60-64, male, white, urban, 0-1 ADL, *not eligible*

CY 2020

- **Cohort 154 (21,000)**
  - 65-74, male, white, urban, 0-1 ADL, *eligible*

- **Cohort 156 (1,500)**
  - 65-74, male, white, urban, 2+ ADL, *eligible*

- **Cohort 58 (44,000)**
  - 65-74, male, white, urban, 0-1 ADL, *not eligible*

- **Cohort 60 (500)**
  - 65-74, male, white, urban, 2+ ADL, *not eligible*

- **Deceased (3,000)**

- **NF (100)**

- **HCBS (2,500)**

- **No formal LTSS (18,400)**
Example (cont’d)

Cohort 154 (21,000)
65-74, male, white, urban, 0-1 ADL, eligible

MN-LPM

NF (100)
$37,882
$3,788,200

HCBS (2,500)
$9,953
$24,882,500

Medicaid Management Information System (MMIS)

Average cost
Total cost
UTILIZATION AND COST PROJECTIONS

Preliminary results
Baseline: Utilization and Costs

- In 2015, 54,773 Minnesotans made claims for LTSS they received at home (or community) or in nursing facilities.
- Our baseline Medicaid spending on LTSS is $991 million.

<table>
<thead>
<tr>
<th></th>
<th>Users</th>
<th>Total Cost (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NF residents</td>
<td>16,942</td>
<td>$620</td>
</tr>
<tr>
<td>HCBS</td>
<td>37,831</td>
<td>$371</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>54,773</strong></td>
<td><strong>$991</strong></td>
</tr>
</tbody>
</table>

Source: SHADAC’s analysis of MMIS, 2015
Utilization and Projections

**Preliminary Results**

- If no policy is implemented, we project that by 2030 the number of Medicaid enrollees who are nursing facilities residents will grow 12%, whereas the number of Minnesotans using HCBS will double – 104% growth.

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2020</th>
<th>2030</th>
<th>2015-2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>NF residents</td>
<td>16,942</td>
<td>12,000</td>
<td>19,000</td>
<td>12%</td>
</tr>
<tr>
<td>HCBS</td>
<td>37,831</td>
<td>56,000</td>
<td>75,000</td>
<td>104%</td>
</tr>
<tr>
<td>Total</td>
<td>54,773</td>
<td>68,000</td>
<td>94,000</td>
<td>76%</td>
</tr>
</tbody>
</table>

*Source: MN-LPM*

*These projections assume a medium scenario for Medicaid eligibility and LTCi*
Utilization and Projections

Preliminary Results

We estimate that total costs for Medicaid will double by 2030.

Source: MN-LPM

These projections assume a medium scenario for Medicaid eligibility and LTCi.
Estimates assume an average inflation rate of 2%.
Nominal estimates assume an annual inflation rate of 3%.
We project that by 2030 Medicaid expenditures on LTSS will grow by 73% ($723 million)

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<th>2020</th>
<th>2030</th>
<th>2015-2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>NF residents (in millions)</td>
<td>$620</td>
<td>$505</td>
<td>$975</td>
<td>57%</td>
</tr>
<tr>
<td>HCBS (in millions)</td>
<td>$371</td>
<td>$496</td>
<td>$739</td>
<td>99%</td>
</tr>
<tr>
<td>Total (in millions)</td>
<td>$991</td>
<td>$1,001</td>
<td>$1,714</td>
<td>73%</td>
</tr>
</tbody>
</table>

Source: MN-LPM
These projections assume a medium scenario for Medicaid eligibility and LTCi
Estimates assume an average inflation rate of 2%

This increase in expenditures is driven by the growth in HCBS utilization (104% growth)
Closing Remarks

• Our model used MN-specific data on the characteristics of elderly Minnesotans
• It used data on current distribution of Medicaid spending
• We used these two main data sources to develop a projection model that forecasts the future patterns of LTSS utilization and expenditures, in particular those paid by Medicaid
• We forecasted the growth of LTSS costs, doubling by 2030
• The MN-LPM provides the state with a platform that can be added to and developed over time to produce additional analysis and policy evaluation
  • We evaluated the effects of two policies: an embedded benefits package in Medicare supplement plans and a blend between life and LTC insurance
Possible Extensions

• Projections beyond 2030

• Policy options
  • Other LTC insurance options
  • Increases in disposable income (e.g., tax credits or reverse mortgage)
  • Social determinants of health (e.g., implementing programs that reduce food-insecurity)

• Outcomes
  • Out-of-pocket expenditures
  • Medicare spending

• Context scenarios
  • Medical advancements (e.g., finding a cure for Alzheimer)
  • Saving patterns (i.e., allow for a different savings pattern for baby boomers)
  • Provider supply
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Check out our website at www.shadac.org and follow us on twitter: @shadac and @LynnBlewett
Behind the Scenes of our Projections

• Impute from HRS to ACS based on:
  
  \[ HCBS_{it} = \alpha + \beta X_{it} + \gamma ME_{it} + \delta ADL_{it} + \theta Cog_{it} + \pi S&D_{it} + \rho LTCl_{it} + \varphi Pol_{it} + \varepsilon_{it} \]

• Using the probability of utilization allows us to add a random effect and use control totals
  
  • Create a random number between 0 and 1 for each individual
  • Compare this random number to every individual’s probability of utilization
  • First assignment of utilization
  • Adjust the probabilities based on control totals
  • Second assignment
LTSS Utilization

• We use all the information available to project LTSS utilization: NF residence or HCBS

• 2015
  • Assets: vehicle ownership, home value (categorical)
  • Income: HH and individual income
  • Demographics: HH size, age (continuous), sex, race, Hispanic ethnicity status, educational attainment, marital status, living children*
  • Employment: status, hours
  • Health: difficulty dressing/bathing, walking/climbing stairs, doing errands alone; morbidity*; health status*
  • Health coverage type
  • LTCi coverage*
  • HC utilization: hospitalization*, NF*, HCBS*
LTSS Utilization (cont’d)

• 2020
  • Morbidity*
  • LTCi coverage*, LifeStage*, Med Supp*
  • HC utilization: NF*, HCBS*
  • Probability of financial eligibility for Medicaid*
  • LTSS: NF*, HCBS*

• 2030
  • Morbidity*
  • LTCi coverage*
  • HC utilization: NF*, HCBS*
  • Probability of financial eligibility for Medicaid*