APPENDIX No:

PRESENTATION ENTITLED
“The Long-Term Care Policy Simulator Model”
The Long-Term Care Policy Simulator Model

September 22, 2010

Avalere Health LLC
The purpose of this presentation is to describe an approach for estimating the premiums for a voluntary, public long-term care insurance program.

Agenda

» Provide brief project background
» Summarize overall modeling approach
» Highlight key issues/challenges
  - Adverse selection
  - Enrollment rates
  - Benefit qualification
» Questions/Discussion
Description of the Long-Term Care Policy Simulator (LTC-PS)

Purpose
- In 2009, before health reform, The SCAN Foundation funded construction of a model that would estimate average premiums for four different long-term care public insurance reform approaches

Proposals to Model
- Mandatory or voluntary social insurance programs
- Either a cash benefit or services benefit
- Note: None of the proposals would allow underwriting other than age. Users could elect to require attachment to the workforce

Basic Overview
- The LTC-PS is an Excel-based spreadsheet model
- It has an inputs page that allows users to vary the key policy options
- The model then calculates the premiums necessary to have an actuarially-balanced program over 75 years
## LTC-PS Input Options

<table>
<thead>
<tr>
<th>Choice</th>
<th>Benefit Description</th>
<th>Population Covered</th>
<th>Minimum Premium Payment Period</th>
<th>Length Of Benefit</th>
<th>Elimination Period</th>
<th>Cross Subsidies To Low-income Individuals</th>
<th>Program Costs Funded Through Premiums</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandatory</td>
<td>Cash Benefit</td>
<td>$50 / day</td>
<td>Zero Years</td>
<td>Lifetime</td>
<td>Zero Days</td>
<td>150% of the Federal Poverty Level</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$75 / day</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$100 / day</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Workers and Their Spouses May Participate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voluntary</td>
<td>Services Benefit</td>
<td>No Cost Sharing</td>
<td>5 Years</td>
<td>90 Days</td>
<td></td>
<td>100% of the Federal Poverty Level</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All Over Age 18 May Participate³</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$500 Deductible, 20% Copayment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Options shaded in yellow are the closest to CLASS legislative specifications but there are a number of key CLASS inputs that were not included in this model

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1 Low income individuals pay no premium. All others pay additional premiums to compensate
2 General revenues used to subsidize premiums in the 75% and 50% options
3 Excludes people who are initially disabled and not working
Key Differences between the LTC-PS and the CLASS Act

- CLASS prohibits non-working spouses from enrolling, but LTC-PS does not
- CLASS has a minimum income and work requirement, but LTC-PS simulates that anyone at work regardless of income could enroll
- CLASS applies the work and income requirement to low-income individuals, but LTC-PS simulates full participation by anyone below the subsidy threshold
- CLASS has a variable ADL trigger for payment of benefits, but the LTC-PS simulates a trigger of slightly below 2 ADLs
- CLASS has a minimal $5 premium for students and low-income individuals, but the LTC-PS has a $0 premium for low-income individuals and excludes students
- CLASS-Medicaid dual beneficiaries retain some of their CLASS payout\(^1\), but LTC-PS simulates entire payout going to Medicaid
- CLASS has level premiums once a person enrolls, but LTC-PS uses inflation-adjusted premiums for all enrollees
- CLASS has the ability to require payment of premiums by enrollees receiving benefits, but LTC-PS simulates enrollees will either be paying premiums or receiving benefits, not both

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\(^1\) Public Health Service Act, §3205(c)(1)(D)(i) and (ii) specify that institutional and certain HCBS Medicaid beneficiaries retain 5 percent and 50 percent of their CLASS payouts.
Model Overview

Model Description

- We use an incidence and continuance model
  - Track enrollees by age
  - Model incidence and continuance of disability to determine when a person becomes disabled and how long he or she remains disabled

Data Sources

- Point-in-time surveys for prevalence of disability in the community (Survey of Income and Program Participation, American Community Survey, Current Population Survey) and in nursing homes (National Nursing Home Survey)
- Longitudinal survey for continuance rates among elderly aged 65+ (National Long Term Care Survey) and actuarial data for continuance rates among disabled aged 18 to 65
- Data Issues:
  - No national, longitudinal data for disability across age spectrum
  - Aggregation of data from multiple surveys
  - No single accepted method to estimate adverse selection
Model Overview


1. Disability
2. Vesting

Population Not Receiving Benefit → Premium Payments → Program Income

Avg. Services Spending
Cash Daily Amt.

Must Be Equal Over Estimation Period
Modeling Enrollment: Population and Program Eligibility

- We use Social Security estimates of the total population by age through 2085.
- Eligibility can be extended to:
  - **All workers**: we estimate attachment to workforce from American Community Survey.
  - **All over age 18**: we exclude people currently disabled unless they are currently working (regardless of reported income).
    - We estimate 5 to 7 percent of people with 2+ ADL disabilities in the community setting are currently working (approximately 400,000 people).
We modeled participation using a points system:

» We constructed a points system based on plausible upper and lower bounds for participation.

» Options that reduce cost, like adding a deductible or elimination period, or reducing benefit amount or length, increase participation

» Typical enrollment rates for CLASS-like program: 12 to 18 percent

» We age-adjust participation rates
  - Participation at age 50 is same as overall estimate
  - Participation increases at a 2 percent growth rate for individuals aged over 50
  - Participation decreases at a 1 percent growth rate for individuals aged under 50

We plan on refining the participation methodology for ASPE using assumptions about employer adoption and demand elasticity
Participation by Age*

* Assumes 10 percent average enrollment
Modeling Enrollment: Vesting

- We estimate compliance with the 5 year vesting period using SSDI vesting as an analog.
- We do not model the effect of lapses.
  - In our Excel-based model, we only need to know the percent of people in any given year that would be eligible to receive benefits.
  - Ineligibility could be related to vesting or lapses.
Modeling Disability: Prevalence

- We estimated prevalence from:
  - 2004 SIPP for community setting
  - 2004 NNHS for institutional setting

- We collected data on percent of individuals in each setting with:
  - Only 1 ADL
  - 2 or more ADLs
  - 3 or more ADLs

- We assumed 50 percent of individuals with only 1 ADL would become eligible for the program
  - Any individual in a nursing home with only 1 ADL would be eligible
  - 48 percent of individuals in the community with only 1 ADL would be eligible

- We also adjust the SIPP data to account for individuals in an assisted-living facility
  - Only the 65+ population
  - We add these people to the ‘institutional’ estimates
  - Shifts approximately 700k people from the community to institution estimates
Modeling Disability: Continuance

- To estimate continuance, or how long someone remains severely disabled, we used two data sets
  - Over age 65: transition matrices from National Long Term Care Survey¹
  - Under age 65: continuance tables from IDEC survey ²
- Non-continuance can be caused by two factors: mortality or improvement in condition
  - Tend to see improvement at younger ages: these individuals are returned to the population eligible to pay premiums
  - Mortality is higher for all ages of disabled individuals compared to non-disabled individuals
  - We required non-continuance to always be at least as high as age-specific mortality from SSA

¹ Stallard, E and Yee, R.K.W. 1999. "Non-insured Home- and Community-Based Long-Term Care Incidence and Continuance Tables." Society of Actuaries
Modeling Disability: Incidence

- Incidence can be computed once we have estimated prevalence and continuance

\[
\text{Prevalence}_{T2} = \text{Prevalence}_{T1} + \text{Incidence}_{T2} - \text{Non Continuance}_{T2}
\]

- We constructed a single cohort of individuals at all ages and tracked them for 100 years to develop incidence rates
  - Population as of 2000, according to SSA
  - Used age-specific prevalence and continuance
  - Applied age-specific mortality estimates from SSA to non-disabled population

- After computing incidence by age, we accounted for an expected decline in prevalence through 2025
  - We modeled a 0.5% decline in age-specific prevalence until 2025, at which point we hold prevalence constant
  - We also hold continuance constant, which results in a decline in age-specific incidence
  - A debatable proposition
Modeling Disability: Adverse Selection

- We increased incidence of participants in the LTC-PS to account for adverse selection
  - Enrolled population in voluntary program has higher disability than general population
- Under the extreme scenario, every individual who would develop disability within 5 years would enroll – this is the “perfect knowledge” scenario
- For the LTC-PS, we assumed enrollment in the initial years was weighted 75% to perfect knowledge scenario
  - This declines to 25% weighting within 10 years
  - Mimics pent up initial demand with continuing adverse selection
- Impact of adverse selection much higher for low-enrollment options
2010 Incidence Curve Adjusted for Adverse Selection*

* Assumes 10 percent average enrollment
Modeling Costs: Medicaid Interactions

- We model the impact on Medicaid based on an assumption about participation by people who would eventually become Medicaid enrollees and the low-income subsidy.
- We model a Medicaid baseline using data from SIPP and NNHS, supplemented by information published by Brian Burwell and Josh Wiener.
- Even with a low-income subsidy, some future Medicaid beneficiaries would still be unlikely to enroll.
  - Not all future Medicaid beneficiaries are currently below the Federal Poverty Limit (FPL)
- The table below shows our estimated participation rates by people who would eventually become Medicaid beneficiaries by the different low-income subsidy levels.
- We apply these participation rates to our Medicaid baseline to develop estimates of Medicaid savings.

<table>
<thead>
<tr>
<th>Premiums</th>
<th>None</th>
<th>100% FPL</th>
<th>150% FPL</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;$50</td>
<td>25%</td>
<td>50%</td>
<td>75%</td>
</tr>
<tr>
<td>$50-80</td>
<td>20%</td>
<td>45%</td>
<td>70%</td>
</tr>
<tr>
<td>$81-100</td>
<td>15%</td>
<td>40%</td>
<td>65%</td>
</tr>
<tr>
<td>$101-120</td>
<td>10%</td>
<td>35%</td>
<td>60%</td>
</tr>
<tr>
<td>$121-150</td>
<td>5%</td>
<td>30%</td>
<td>55%</td>
</tr>
<tr>
<td>&gt;$150</td>
<td>0%</td>
<td>25%</td>
<td>50%</td>
</tr>
</tbody>
</table>
Limitations of the Model

- **Disability estimates**: The data sets used have somewhat different ways of measuring disability.

- **Participation rates**: Estimating participation for such a novel program is complex. Participation will be driven by many factors, premiums being a large one. Our points system is an approximation.

- **Adverse selection**: Estimating adverse selection is complex. We followed a method used by actuaries and the CBO. However, there is considerable debate among researchers.

- **Impact to Federal budget**: Interactions with the federal budget, specifically around the tax implications of the program, are beyond the current scope of the model.
Questions and Answers
A REPORT ON THE ACTUARIAL, MARKETING, AND LEGAL ANALYSES OF THE CLASS PROGRAM

For additional information, you may visit the DALTCP home page at http://aspe.hhs.gov/_/office_specific/daltcp.cfm or contact the office at HHS/ASPE/DALTCP, Room 424E, H.H. Humphrey Building, 200 Independence Avenue, SW, Washington, DC 20201. The e-mail address is: webmaster.DALTCP@hhs.gov.

Files Available for This Report

[HTML versions of Appendices will be added as they are formatted]

Main Report

APPENDIX A: Key Provisions of Title VIII of the ACA, Which Establishes the CLASS Program

APPENDIX B: HHS Letters to Congress About Intent to Create Independent CLASS Office

APPENDIX C: Federal Register Announcement Establishing CLASS Office

APPENDIX D: CLASS Office Organizational Chart

APPENDIX E: CLASS Process Flow Chart

APPENDIX F: Federal Register Announcement for CLASS Independence Advisory Council

APPENDIX G: Personal Care Attendants Workforce Advisory Panel and List of Members

Full Appendix

Ga: Federal Register Announcement for Personal Care Attendants Workforce Advisory Panel

Gb: Advisory Panel List of Members
APPENDIX H: Policy Papers Discussed by the LTC Work Group [36 PDF pages]
http://aspe.hhs.gov/daltcp/reports/2011/class/appH.htm

APPENDIX I: CLASS Administration Systems Analysis and RFI [10 PDF pages]
http://aspe.hhs.gov/daltcp/reports/2011/class/appI.htm

APPENDIX J: Additional Analyses for Early Policy Analysis [150 PDF pages]
Full Appendix
Ja: A Profile of Declined Long-Term Care Insurance Applicants
Jb: CLASS Program Benefit Triggers and Cognitive Impairment
Jc: Strategic Analysis of HHS Entry into the Long-Term Care Insurance Market
Jd: Managing a Cash Benefit Design in Long-Term Care Insurance

APPENDIX K: Early Meetings with Stakeholders [4 PDF pages]
http://aspe.hhs.gov/daltcp/reports/2011/class/appK.htm

APPENDIX L: In-Depth Description of ARC Model [62 PDF pages]

APPENDIX M: In-Depth Description of Avalere Health Model [23 PDF pages]
http://aspe.hhs.gov/daltcp/reports/2011/class/appM.htm

APPENDIX N: September 22, 2010 Technical Experts Meeting [61 PDF pages]
Full Appendix
http://aspe.hhs.gov/daltcp/reports/2011/class/appN.htm
Na: Agenda, List of Participants, and Speaker Bios
Nb: Presentation Entitled “Actuarial Research Corporation’s Long Term Care Insurance Model”
Nc: Presentation Entitled “The Long-Term Care Policy Simulator Model”
Nd: Presentation Entitled “Comments on ‘The Long-Term Care Policy Simulator Model’”

APPENDIX P:  June 22, 2011 Technical Experts Meeting

Full Appendix
http://aspe.hhs.gov/daltcp/reports/2011/class/appP.htm

Pa: Agenda and Discussion Issues and Questions

Pb: Presentation Entitled “Core Assumptions and Model Outputs”

Pc: Presentation Entitled “Actuarial Research Corporation’s Long Term Care Insurance Model”

Pd: Presentation Entitled “The Avalere Long-Term Care Policy Simulator Model”

Pe: Presentation Entitled “Alternative Approaches to CLASS Benefit Design: The CLASS Partnership”

APPENDIX Q:  Table 2: Actuarial and Demographic Assumptions
[2 PDF pages]
http://aspe.hhs.gov/daltcp/reports/2011/class/appQ.htm

APPENDIX R:  Figure 1: Daily Benefit Amount for Increased Benefit
[2 PDF pages]