Factors Contributing to Growth Model

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What is the Factors Model?

• Develops long-range health spending projections based on the Trustees economic projection

• Based on an accounting framework used to track the historical contributions of key factors:
  • Demographics
  • Δ in insurance coverage
  • Δ in relative medical price inflation
  • Δ in real per capita income
  • Residual (primarily attributable to the development and diffusion of new medical technologies)

• Future assumptions about the key factors are based on long-run historical experience and anticipated evolution in the long-run future

• Allows for decomposition of projections into “price” and “real” components critical for making current law Medicare projections
Factors Model Equation

\[ h = a + \varepsilon_y y + \varepsilon_i i + (1 + \varepsilon_p) p + d \]

- **h** = growth in constant-dollar health spending per capita
- **a** = growth residual
- **y** = growth in income (approximated by GDP per capita)
- **i** = average coinsurance rate
  (approximated by the out-of-pocket share of total health spending)
- **p** = growth in relative medical price at time t (relative to GDP deflator)
- **d** = index of demographic contribution at time t

**Elasticity:**

\( \varepsilon_y \) = income-technology; \( \varepsilon_i \) = coinsurance; \( \varepsilon_p \) = relative medical price
How is the Factors Model Used in TR?

• Part A (updated by market basket) and Part B (updated by market basket or CPI)
  • Real per capita growth (V&I)* for years 25-75, adjusted by ACA behavioral impacts

• Part B (physician services)
  • Real per capita (V&I)** for years 25-75 assuming medical price equals the MEI

• Part B (lab, physician-administered Rx, small facility), Part D, and NHE
  • Medical price and real per capita (V&I)* for years 25-75

*Excluding age-gender effects
**Excluding age-gender effects; grows roughly 0.4% faster than NHE V&I
Results

1990-2014 differences between:
- NHE and GDP per capita = 1.6%
- Medical price and GDP deflator = 0.8%
- Real per capita GDP and V&I = 0.8%
Results, cont.

Figure A.5.—Long-Range NHE Excess Cost Growth* based on the FCG Model

Source: Centers for Medicare & Medicaid Services, Office of the Actuary.

*Excess Cost Growth is defined as growth in per capita, age-gender adjusted health spending less growth per capita GDP.
Results, cont.

Chart 5—National Health Expenditures as a Percent of GDP 1970-2090

Source: Centers for Medicare and Medicaid Services, Office of the Actuary.

NOTE: Historical data is used before 2015 and projections from 2015 forward.
Additional Information
## Factors Model Assumptions and Variables

<table>
<thead>
<tr>
<th>Factor</th>
<th>Historical Estimate</th>
<th>Assumptions 2040-2090</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income-Technology Elasticity</td>
<td>1.5-1.7</td>
<td>1.27 → 1.09</td>
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<tr>
<td>GDP per capita (% change)</td>
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<td>1.6%</td>
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<tr>
<td>Insurance Elasticity</td>
<td>−0.2</td>
<td>−0.2</td>
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<tr>
<td>Average coinsurance rate (% change)</td>
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<td>0.0%</td>
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<tr>
<td>Relative Medical Price Elasticity</td>
<td>−0.4</td>
<td>−0.51 → −0.59</td>
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<tr>
<td>Relative medical price (% change)</td>
<td></td>
<td>0.8%</td>
</tr>
</tbody>
</table>
Figure A.4.— Income-Technology Elasticity Estimates: Historical Estimates and Projections for 2016 Trustees Report

Fitted values, 1980-2002

Projection 2015-2090

Income-technology elasticity
Predicted values
Historical and Projected growth in Real per capita NHE versus GDP, 1966-2090
(Centered moving average of annual growth rates, 11 years)