Review of the Assumptions and Methods of the Medicare Trustees' Financial Projections

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Prepared by:
2004 Technical Review Panel on the Medicare Trustees Report

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Preface

The Board of Trustees of the Medicare trust funds (the Hospital Insurance (HI) and Supplementary Medical Insurance (SMI) trust funds) reports annually on the funds' financial condition. The reports describe the current and projected financial status of the trust funds over a 75-year period. The Board of Trustees directed the Secretary of the Department of Health and Human Services (HHS) to establish a Technical Expert Panel to review the methods and assumptions underlying the Medicare reports. The 2004 Panel includes the following members:

- Edwin Hustead, F.S.A., M.A.A.A., Senior Vice President, the Hay Group, Arlington, Virginia (Co-Chair);
- William Scanlon, Ph.D., Private Consultant (Co-Chair);
- John Bertko, F.S.A., M.A.A.A., Vice President and Chief Actuary, Humana Inc., Flagstaff, Arizona and Louisville, Kentucky;
- Michael Chernew, Ph.D., Professor, Health Management and Policy, Associate Professor of Economics, Associate Professor, Internal Medicine, University of Michigan, Ann Arbor, Michigan;
- David Meltzer, M.D., Ph.D., Associate Professor, Department of Medicine, Associated Faculty Member of the Harris School of Public Policy and Department of Economics, the University of Chicago, Chicago, Illinois;
- Mark Pauly, Ph.D., Bendheim Professor of Health Care Systems, Business and Public Policy, Insurance and Risk Management, Health Care Systems Department, the Wharton School of Business, the University of Pennsylvania, Philadelphia, Pennsylvania; and
- Alice Rosenblatt, F.S.A., M.A.A.A., Executive Vice President, Integration Planning and Implementation and Chief Actuary, Wellpoint, Inc., Thousand Oaks, California.

Andrew Cosgrove and Jacob Kaplan of the Office of the Assistant Secretary for Planning and Evaluation (ASPE), HHS, served as the Executive Director and Deputy Director of the Panel, respectively.

The Charter for the Technical Review Panel describes the Panel's function as follows:

> *[The Panel] "(S)hall review the assumptions and methods underlying the Hospital Insurance and Supplementary Medical Insurance Trust Fund annual reports. The Panel's review shall include a review of the Trustees' current assumptions regarding the long-term rate of growth in medical expenditures, and may include other issues that panelists identify."*[1]

It was critical that the current Panel's recommendations be delivered in time to be used in the 2005 Trustees Report, particularly those relating to the new Part D projections, which had never previously been reviewed externally. Therefore, the time that the Panel had to complete its work was necessarily limited. While the 2000 Medicare Technical Panel did an excellent job of reviewing all aspects of the Trustees' methods and assumptions, they did not address the Part D program because the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (also known as the Medicare

[1] The complete Charter for the Technical Review Panel on the Medicare Trustees Report is reproduced in Appendix A.

Modernization Act, or MMA) Part D benefit had not yet been proposed in 2000. The 2000 Panel met and deliberated for almost 6 months before delivering their report on the full range of the Trustees' methods and assumptions.

The 2004 Panel held a series of six public meetings at HHS offices in Washington, D.C. on the following dates:

- August 27th;
- September 15th;
- September 24th;
- October 6th;
- October 15th; and
- November 15th.

With less than 3 months to meet and deliberate, the 2004 Panel reviewed in detail the following two topics:

- The long-range growth assumptions for HI and SMI; and
- The new Part D prescription drug benefit projections.

Staff members from the Office of the Actuary (OACT) of the Centers for Medicare & Medicaid Services (CMS) attended all six meetings and provided technical background and support. During these meetings, the Panel heard presentations from staff members at:

- OACT;
- CMS;
- The Congressional Budget Office (CBO); and
- The Department of the Treasury.

Presentation topics included methods used to project long-run Medicare and medical cost spending, projections based on the Medicare Current Beneficiary Survey (MCBS) and National Health Expenditures (NHE) projections, current methods at OACT and CBO to project Part D benefits and costs, OACT and CBO's Medicare Advantage (MA) cost estimates, and related issues. Each public meeting's proceedings were characterized by active and open discussions by the Panel and other meeting attendees.

This report presents the findings and recommendations of the 2004 Panel but does not provide a complete review of all the methods and assumptions used to prepare Medicare program expenditure projections. The Medicare Trustees Report is based on a wide range of methods and assumptions, including the economic and demographic assumptions underlying the Social Security Trustees Report. The reader is referred to the reports of the 2000 Medicare Panel and the 2003 Social Security Panel for a full discussion of the methods and assumptions that could not be considered by the current Panel. The prior CMS and Social Security panels are cited in Appendix B.

For their generous support, the Panel wants to thank Michael O'Grady, Assistant Secretary for Planning and Evaluation at Health and Human Services; Richard Foster, Chief Actuary at the Centers for Medicare & Medicaid Services; Mark Warshawsky, Assistant Secretary for Economic Policy at the Department of the Treasury; Thomas Bradley, Chief of the Health Cost Estimates Unit at the Congressional Budget Office (CBO); and the staffs of all four offices. Whenever necessary throughout the project, the Panel was quickly provided with extensive information and support from ASPE, OACT, Treasury, and CBO. A special thanks is extended to Kevin Coleman and the staff of Abt Associates, who were instrumental in producing this report.

Edwin Hustead, Co-Chair
William Scanlon, Co-Chair

December 2004

Executive Summary

The Panel was asked by the Trustees to review the current long-range rate of growth of Medicare expenditures and OACT and the Trustees' current Part D prescription drug expenditure estimates. Overall, the methods and assumptions used by OACT and the Trustees in both areas were found to be reasonable given information currently available. However, the Panel also identified a number of areas where more research and the use of evolving information will be essential to improve future estimates. The Panel also recommended a few ways in which the current expenditure estimates and the presentation of these results could be improved.

At the same time, the Panel believes that the lack of relevant data for projecting Part D program expenditures increases the uncertainty of the resulting projections. Given this uncertainty, many of the Panel's recommendations relate to using other data to inform key Part D projection assumptions and to use Part D premium, administrative, and claims data to improve Part D expenditure projections as soon as these new sources of data become available after program implementation.

The Panel commends OACT staff members for their technical expertise and dedication in providing professional services to the Trustees and to this Panel.

The findings and recommendations of the Panel are detailed in Chapters I to III:

- Long-range projections of Medicare expenditures (Chapter I);
- Part D expenditure projections (Chapter II); and
- Other issues considered by the Panel (Chapter III), including the possible effects of Part D on Part A and Part B costs; the manner in which information is presented in the Trustees Report; emphasizing the projections' uncertainty; using stochastic models to project Medicare expenditures; participation rates in new MA plans; and a timeframe for convening a new panel.

Long-Range Projections

Recommendation I-1: The Panel finds that the long-range annual rate of growth of adjusted Medicare expenditures per beneficiary of per capita GDP growth plus 1 percentage point, now assumed by OACT and the Trustees, is within the range of reasonable assumptions, given the limits of current knowledge.

Recommendation I-2: The Panel recommends that OACT continue to develop behavioral models of the growth rate of Medicare expenditures and that these models be used to inform long-run growth in expenditure estimates under current law.

Recommendation I-3: The Panel recommends that OACT support the development of new approaches and models of long-range Medicare expenditure growth and that the Department of Health and Human Services (HHS) fund research supporting the development of such models, especially research on the causes of long-run medical care expenditure growth.

Recommendation I-4: The Panel recommends that OACT and the Trustees continue to project medical care and Medicare expenditures under current law. The Panel further recommends that

judgments about the sustainability of medical services consuming particular shares of GDP play no role in those projections.

Recommendation I-5: The Panel recommends that the Trustees Report not expand its presentation of infinite horizon projections beyond how they were reported in the 2004 Trustees Report.

Part D Projections

Recommendation II-1: The Panel concludes that OACT and the Trustees' projections of expenditures for the Medicare Part D program are within a reasonable range.

Recommendation II-2: The Panel recommends that OACT and the Trustees reduce the number of Medicare beneficiaries expected to participate in the Part D program and incorporate an explicit model of beneficiary selection.

Recommendation II-3: The assumptions used to predict the employer reactions to Part D and the costs of those actions were reasonable for the 2004 Trustees Report, but evolving information now suggests that employers may react differently. The Panel recommends that OACT and the Trustees monitor the rapidly changing environment and modify their employer behavior assumptions accordingly.

Recommendation II-4: The Panel recommends that OACT and the Trustees assume that the proportion of Medicare beneficiaries with employer-provided prescription drug coverage decline over time.

Recommendation II-5: The Panel recommends that OACT and the Trustees use additional data sources to inform their Medicare Part D drug utilization and cost projections.

Recommendation II-6: The Panel recommends that OACT and the Trustees use plan premium, beneficiary enrollment, administrative, claims, and other Part D data as soon as possible to revise their Medicare Part D beneficiary participation and expenditure projections and that OACT be provided with the resources necessary to assure full and timely access to these Part D data as the data become available.

Other Issues

Recommendation III-1: The Panel recommends maintaining OACT and the Trustees' current assumption that implementation of the Part D prescription drug benefit will not affect utilization or costs for Part A or Part B..

Recommendation III-2: The Panel recommends that OACT conduct or commission research of the effect of changes in prescription drug utilization on Part A and Part B utilization and costs.

Recommendation III-3: The Panel recommends that the Overview of the Trustees Report be expanded to include more information on the long-run effects on the total Medicare program and more information surrounding the uncertainty of the Medicare projections.

Recommendation III-4: To better reflect uncertainty, the Panel recommends that the low and high cost alternatives incorporate the effects of reasonable alternative assumptions of key parameters relative to the intermediate assumptions.

Recommendation III-5: If the Trustees believe that continuation of current law is unlikely, the Panel recommends that OACT and the Trustees present projections of changes to current law as alternative scenarios to supplement their projections.

Recommendation III-6: The Panel supports OACT's continued development of stochastic models to provide alternative estimates of uncertainty but advises that their use be extended cautiously, especially for the Part D program.

Recommendation III-7: While the Panel agrees that OACT and the Trustees' assumption regarding the ultimate rate of beneficiary participation in the Medicare Advantage program is in a reasonable range, the Panel recommends that the period to reach the ultimate beneficiary participation rate be extended and that the beneficiary participation rate be assumed to increase in even increments from its current level to the ultimate level.

Recommendation III-8: The Panel recommends that the Secretary of Health and Human Services (HHS) convene the next advisory panel no later than 4 years from now (i.e., by 2008) and that this next panel conduct a broader review of all aspects of the HI and SMI programs.

Chapter I: Long-Range Projections

The Panel reviewed several issues related to long-range projections of Medicare expenditures, including:

- The long-range rate of growth of Medicare expenditures;
- The role of "sustainability" in making Medicare expenditure projections; and
- OACT and the Trustees' current treatment of "infinite horizon" projections.

Specific findings and recommendations are discussed below. Overall, the Panel concluded that the current assumption regarding the long-range growth of Medicare expenditures is reasonable but had several recommendations concerning how to better represent and model this growth rate. The Panel recommended that the assumptions not be modified to reflect judgmental notions of "sustainability." Finally, the Panel concluded that the current treatment of infinite horizon projections of Medicare expenditures presented in the Trustees Report should be continued but not expanded.

Long-Range Rate of Growth of Medicare Expenditures

Recommendation I-1: The Panel finds that the long-range annual rate of growth of adjusted Medicare expenditures per beneficiary of per capita GDP growth plus 1 percentage point, now assumed by OACT and the Trustees, is within the range of reasonable assumptions, given the limits of current knowledge.

To quote from the 2004 Trustees Report:

> *"The assumed long-range rate of growth in Medicare expenditures is one of the most critical determinants of the projected cost of Medicare-covered health care services in the more distant future." (Page 5)*

OACT and the Trustees forecast Medicare expenditure growth over the next 75 years in three stages[2]:

- For the next 12 years (the "short range"), OACT estimates growth rates year by year to reflect recent trends in expenditure growth and the impact of specific statutory provisions. Specific estimates are made for each Medicare service and thus for each part of the Medicare program (i.e., HI, or Part A, and SMI, or Parts B and D);[3]
- For years 13 to 25 (the "intermediate range"), OACT grades the growth rates from year 12 for each part of the program up or down smoothly to reach a common long-range growth rate for all Medicare services; and

[2] For projections beyond 75 years (the "infinite horizon"), OACT and the Trustees assume the real Medicare expenditure growth rate to be equal to the real GDP per capita growth rate.

[3] Examples of Part A services include inpatient hospital care and skilled nursing facility care; for Part B, physician services; and for Part D, prescription drugs.

- For years 25 to 75, OACT assumes a common, constant growth rate—the "long-range" rate of growth in Medicare expenditures.

At present, OACT and the Trustees assume that the long-range rate of real, age- and gender-adjusted per beneficiary Medicare expenditures is equal to the Trustees' long-range growth rate of per capita gross domestic product (GDP) plus 1 percentage point. As their long-range estimate of real per capita GDP growth is currently 1.6 percent per year, this "GDP + 1" real long-range growth rate is equal to 2.6 percent per year.

The use of a long-range growth rate of GDP + 1 in the 2001 through 2004 Medicare Trustees Reports represents an important departure from previous OACT and Trustees' assumptions. Under the previous assumptions, the long-range growth rate had been assumed to be approximately equal to per capita GDP growth (i.e., "GDP + 0"). This change reflected OACT and the Trustees' decision to adopt the recommendation of the 2000 Panel. The 2000 Panel observed that for over 50 years, real per capita national health expenditures growth consistently exceeded real per capita GDP growth (Table 1). Even for the most recent period reported (1990 to 2002), when managed care, the expanded use of prospective payment principles, and other factors likely reduced medical care cost growth, real per capita NHE still exceeded real per capita GDP growth by almost 2 percentage points per year.

Table 1
Real Per Capita Growth in National Health Expenditures (NHE) versus Gross Domestic Product (GDP): Average Annual Growth Rates over Selected Time Periods

Period	NHE	GDP	NHE - GDP
1945 to 2002	4.2%	1.5%	2.6%
1960 to 2002	4.5	1.5	3.0
1970 to 2002	4.0	1.8	2.2
1980 to 2002	4.4	2.0	2.4
1990 to 2002	3.7	1.9	1.8

Source: Review of Assumptions and Methods of the Medicare Trustees' Financial Projections: Technical Review Panel on the Medicare Trustees Reports (December 2000) ["2000 Panel Report"], and the National Health Expenditures.

Notes: The NHE minus GDP differentials may not equal the difference between their rounded components. Real per capita NHE and GDP are derived by adjusting nominal levels for (1) general price inflation (using the chain-weighted GDP price index); and (2) the number of people in the total U.S. population.

In addition, the 2000 Panel Report noted that real per capita Medicare cost growth exceeded the real per capita GDP growth rates. This historical experience indicated that there was no 10-year period when real per capita Medicare cost growth was ever as low as real per capita GDP growth. The 2000 Panel thus strongly believed that the long-range Medicare expenditure growth rate used by OACT and the Trustees should exceed real per capita GDP growth.

To determine by how much the long-range Medicare expenditure growth rate should exceed real per capita GDP growth, the 2000 Panel reviewed the empirical literature examining determinants of health care cost growth. Factors influencing medical care expenditure growth included:

- Aging of the population;
- Expansions in health insurance coverage;
- Relative medical price inflation—i.e., how much more on average medical prices have increased compared to overall prices;
- Avoidable administrative expense;
- Supplier-induced demand and defensive medicine;
- Technological change; and
- Income growth holding technological change constant.[4]

Some of these factors are already controlled for in OACT and the Trustees' projections (e.g., aging). The 2000 Panel concluded that approximately one-half of the post World War II median real growth in national health expenditures—2.2 out of a total of 4.4 percent per year—was due to technological change. Noting that OACT and the Trustees, at that time, assumed that the long-range real per capita GDP rate of growth (a close proxy for income) was 1.2 percent per year, the 2000 Panel recommended that the long-range growth rate in Medicare expenditures be equal to GDP plus 1 percentage point per year, or GDP + 1. The 2000 Panel indicated that the GDP + 1 figure fell at the lower end of the reasonable range, because it assumes that factors other than technological growth will not continue to contribute to health care expenditure growth. One such other factor is income growth that is associated with rising health care spending even when technology is held constant. The 2000 Panel noted that its recommendation was consistent with three other recommendations of long-range per capita medical expenditure growth:

- Financial disclosures by major employers of their projected long-term liabilities for retiree medical benefits were consistent with a GDP + 0.8 percentage-point assumption;
- CBO forecasts were consistent with a GDP + 0.9 percentage-point assumption; and
- Independent research predicted that real per capita medical care costs would increase by GDP + 1.5 percentage points per year (McClellan, 2000).

After reviewing these projections and accompanying methodology, the 2004 Panel finds that OACT and the Trustees' assumption that the long-range growth rate in real, per capita, age- and gender-adjusted Medicare expenditures is real GDP+1 percent per year is reasonable given current knowledge. The implied income elasticity of one (that is meant to capture the portion of the income effect operating through technology) is consistent with the literature (Feldstein, 1988). The constant of one, added to the GDP component of technology-induced cost growth, is also considered a reasonable approximation of the factors, largely technology that would contribute to cost growth independent of income growth.[5]

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[4] Accounting for the effects of income growth on medical expenditures is complicated because rising incomes can (1) directly affect the demand for medical care, holding technology constant; and (2) indirectly affect health care demand by promoting technological change. The 2000 Panel used estimates based on the results of the Rand Health Insurance Experiment to estimate the effect of income growth on medical expenditures, holding technology constant. The indirect effects of income growth on technological change were reflected in the GDP+1 assumption.

[5] In 2000, the addition of 1 percentage point to real per capita GDP growth resulted in an annual long-run rate of medical care cost growth of 2.2 percent (i.e., GDP + 1). The GDP term captures the portion of the income effect that operates through technology that was not accounted for elsewhere. The 1 percentage point term represents a residual technology term that is independent of income.

However, the Panel noted that the assumption implicitly incorporates assumptions about the relationship among income, prices, technical progress, and spending growth that are not grounded in strong behavioral research. With greater knowledge, the assumptions about long-term cost growth may be modified in ways that alter the basic form of the assumption such that spending growth would not be assumed to be a constant amount above GDP growth.

Since the 2000 Panel met, OACT and the Trustees have increased their long-range projection of real per capita GDP growth from 1.2 to 1.6 percent per year. Under the GDP + 1 rule, this implies that OACT and the Trustees now assume that the long-range real rate of growth of Medicare expenditures per beneficiary is 2.6, not 2.2, percent per year. The Panel believes that this higher long-range rate of growth is still within the reasonable range.

Recommendation I-2: The Panel recommends that OACT continue to develop behavioral models of the growth rate of Medicare expenditures and that these models be used to inform long-run growth in expenditure estimates under current law.

The 2000 Panel's recommendation that real, age- and gender-adjusted growth in Medicare spending per beneficiary be assumed to equal real per capita GDP growth plus 1 percentage point was based on an analysis of past spending trends and their relationship to GDP. It was not based on a detailed analysis of how income, technological change, health status, and productivity in the health care sector would evolve to determine spending. These key factors, which define the relevant supply and demand conditions, are all simultaneously determined.

The GDP + 1 assumption may be thought of as a specific case of a more general class of models of the form:

$$\text{Long-Range Medicare Expenditure Growth (per capita)} = f(GDP, \underline{X; \beta})$$

In this equation, X denotes factors other than GDP that may influence spending growth, such as changes in relative medical prices or technology, and β denotes a vector of parameters relating spending to GDP and other factors. One specific form of the general formula would be a*GDP + b(X), where "a" is a parameter indicating how much Medicare expenditure growth is expected to change in response to changes in GDP, and "b" may combine the effect of the other factors. (Note that OACT and the Trustees' current long-range assumption set "a" equal to "1" and "b" equal to a constant 1 percentage point, intended to capture technological progress.) Such structural relationships, however, may not be constant (Lucas, 1976). The parameter "a" may change as GDP moves out of a specified range or "b" may likewise change in response to changes in its determinants. The more general function "f" allows relationships among GDP, other factors, and Medicare expenditure growth to take virtually any form; ideally, a behavioral model would determine this form.

Modeling equilibrium in this context is extraordinarily difficult but important, because projections based on historical experience, such as the GDP + 1 assumption, may become less accurate as spending levels consume an ever greater share of income. Large subsets of the population may be particularly affected by rising costs relative to their incomes, a situation that could affect their consumption of care and in turn their health status and the development of new medical technologies.

Moreover, current law provisions regarding taxation may result in higher tax rates or public borrowing that in turn affect the overall economy. Such implications should be reflected in Medicare expenditure models and the Trustees Report.

OACT and CBO have already initiated efforts to build more complex models of health spending. The Panel heard presentations regarding two OACT computational general equilibrium (CGE) models of long-term health care spending:

- A more basic CGE model developed by OACT staff and Thomas Rutherford that is now available for use; and
- A multi-sectorial, macroeconomic CGE model whose treatment of the health care sector and health care spending will be considerably expanded. This second model is now being developed for OACT by economists Dale Jorgensen and Joseph Anderson.

The Panel found both models to be interesting and potentially quite valuable, though more research and development are needed before the results from these models can be incorporated into the Trustees' forecasts. The Panel encourages OACT to continue supporting the development of these and other models of long-range Medicare expenditure growth. Moreover, the Panel believes that several principles should be incorporated into the models.

First, the models must reflect current law provisions that could affect Medicare beneficiaries' demand for health care services. Even after the Part D program has been implemented, Medicare beneficiaries will face Part B and Part D premiums and a variety of Medicare co-payments and deductibles. As their out-of-pocket costs increase, some beneficiaries, especially those with below average incomes who do not qualify for Medicaid or the Part D low-income subsidy, may drop out of the Part B or Part D program or reduce their use of medical services, to lessen their expenses. Such changes in behavior in turn will affect Medicare expenditure projections.

Second, the models should not assume that spending will slow to meet any pre-specified level of spending. As indicated in Recommendation I-4, the nature of cross subsidization in the system is such that in aggregate very high levels of spending may arise, relative to income, because the consumers are not the same individuals as the payers. Ultimately decisions regarding program provisions and financing may have to be adjusted to reflect society's willingness to pay for higher spending, but the Trustees' projections are designed to reflect current law. Thus, the models should reflect current program provisions, thereby highlighting the financing issues that will arise in the absence of change.

Considerable attention must be paid to the spillovers between the private health care sector, which will face many of the same fiscal pressures but not be constrained by current law, and the Medicare sector. In the absence of more evidence on this topic, OACT should not assume that reforms in the private sector designed to constrain costs will be sufficient to change Medicare expenditures in the absence of current law changes.

While not an exhaustive list, the models developed should incorporate the following factors:

- Income—More formal estimates of the relationship between changes in income and changes in the demand for health (or medical) care—that is, income elasticities—should be modeled. The current GDP + 1 assumption imposes an implied elasticity of 1, which is

within the reasonable range of estimates in the literature. Moreover, income elasticities might change as medical care (and Medicare) absorbs larger and larger shares of total GDP. For example, one might envision that the marginal benefits associated with additional medical care consumption decrease as more medical care is consumed. Another possibility is that increasing levels of medical care consumption could affect the overall growth rate of income or the economy if the productivity of the health care and non-health care sectors differs significantly.

Changes in national per capita income might also alter the rate, and nature, of technological progress in medicine. Certain types of technical change could conceptually result in the share of health care in GDP rising for extended periods of time. The models of expenditure growth must recognize the difference between personal income elasticities of demand for health care and income elasticities at the societal level.

- Relative prices—It is also important to examine how differences in productivity of the health care sector, compared to productivity in the rest of the economy, may influence relative prices and expenditures. If the productivity of the health care sector is lower than that of non-health care sectors in the economy, over time relatively more labor will be needed to produce medical services than to produce other goods and services. All else being equal, the wages of health care workers relative to other workers must be constant. Were they not, workers would tend to migrate from the sector of the economy with relatively lower wages to the sector offering relatively higher wages. Eventually, health care prices would need to rise to pay for health care's relatively higher labor share.

  Historically, health care price increases have exceeded growth in other prices, and health care productivity has been assumed to be lower than the rest of economy. That assumption is, at best, an open question. There are strong reasons to suggest that health care productivity is underestimated, given the difficulty in accurately controlling for increases in the quality of medical services. Health care productivity may also increase if less expensive allied health professionals continue to substitute for more expensive physicians and other providers in the provision of medical services. Finally, there may also be areas where capital (e.g., new equipment, medical devices, pharmaceuticals, etc.) may be substituting for labor in health care. These offsetting hypotheses underscore the potential value of more research and investigation in these areas.

- Technological change—Given the prominence that technological change is accorded in accounting for medical care expenditure growth, developing a better understanding of the determinants of technological change is a topic worthy of further investigation. Understanding the interrelationships among increased investment in research and development, advances in medical technology, and economic growth will be essential in developing more reliable behavioral models of medical expenditures and expenditure growth.

- Health Status—Medicare spending reflects the health status of its beneficiaries. Accordingly, changes in health status can have important ramifications for spending. Moreover, spending will ultimately affect health status. Understanding the relationship between spending and health status is a crucial aspect of modeling spending growth.

Recommendation I-3: The Panel recommends that OACT support the development of new approaches and models of long-range Medicare expenditure growth and that the Department of Health and Human Services (HHS) fund research supporting the development of such models, especially research on the causes of long-run medical care expenditure growth.

The Panel believes that one of the reasons better and more comprehensive behavioral and structural models of long-run medical care expenditure growth do not exist is because of the lack of basic research exploring the underlying causes of growing medical care spending. The discussion provided above for Recommendation I-2 was general and speculative because little conclusive, empirical evidence exists to answer many basic questions about the causes of growth in medical spending. For instance: What is the relationship between income/economic growth and medical spending? How do the relative prices of medical services vary over time compared to prices for the rest of the economy? What are accurate measurements of the productivity in the health care sector? What accounts for the extent, persistence, and causes of health care technological change?

Models of the growth of total medical spending should incorporate behavioral models of both the supply of beneficial-but-costly new technologies and the response of consumers to the higher costs caused by that new technology. In addition, the linkage between technological change and the growth in spending in the private and other public sectors and in the Medicare program needs to be specified more precisely and more explicitly than in the current OACT projections. While it is clear that historically the growth rates of spending in Medicare and the private sector have been similar, this pattern could reflect either common factors driving spending in both settings or a spillover between Medicare and the private sector. The constraints bearing on the private sector in the future are likely to differ from those imposed on Medicare by current law, so that some change in the spillover relationship might be anticipated, but relatively little is known about the magnitude of the spillover between sectors.

The Panel believes that supporting intramural (i.e., within OACT or CMS) research alone probably will not provide adequate answers to these questions. Instead, a much broader strategy of also funding multiple extramural (i.e., outside OACT and CMS) research projects may be needed. The Panel supports pursuing such a strategy and believes that the resources of all of HHS, not only OACT or CMS, may be necessary.

Sustainability

Recommendation I-4: The Panel recommends that OACT and the Trustees continue to project medical care and Medicare expenditures under current law. The Panel further recommends that judgments about the sustainability of medical services consuming particular shares of GDP play no role in those projections.

Previous review panels devoted considerable care and attention to the question of whether the projected growth of medical and Medicare expenditures would be "sustainable." In some cases, as in the 1991 Panel Report, judgments about "unsustainable" GDP shares were used to guide and alter the projected program cost estimates. Rather than forecast what would be implied by current law as

written, judgments that spending would have to deviate from the levels implied by current law and change toward more sustainable levels were incorporated into the projection methods and therefore into the projections.

In other cases, such as in the 2000 Panel Report, extensive discussion was devoted to the topic of sustainability, but the assumptions were not altered to reflect sustainability targets. The 2000 Panel expressed the view that even if the forecasts were deemed unsustainable, the assumptions should not necessarily change.

Ultimately the 2000 Panel concluded that the recommended assumption—that medical care services would constitute 38 percent of GDP by 2075—was "sustainable" for two reasons:

- Medical care services would not "crowd out" all of the growth of non-medical care services entirely—by 2075, the economy would still be able to sustain medical care services expenditure growth at GDP + 1 percent, and the output of non-medical care goods and services would continue to increase by a positive (if small) amount; and
- The share of labor in the health care sector would need to rise from 9 to 17 percent to support this level of medical care expenditure, an occurrence that the 2000 Panel also concluded was feasible.

The 2004 Panel believes that the shares of Medicare and total medical care expenditures in GDP are important considerations that should be included in the Trustees Report. However, the Panel recommends that the Trustees not modify their assumptions for projecting Medicare spending based on judgments that high-share levels are not "sustainable"; rather, projections should be based on the development of and outputs from the modeling improvements already suggested.

With the exception of the extreme case in which medical care expenditures exceed total economic output, there are no "positive" rules defining sustainability, only subjective and normative judgments. The Medicare projections serve to inform policy makers and the public of the likely effects of maintaining current law. To alter the projections based upon some definition of sustainability would reduce the value of OACT and the Trustees' projections in signaling these effects. It is important for policy makers and the public to wrestle with this issue and to decide what level of medical care spending is reasonable and sustainable over the long run.

The Panel also does not wish to imply that there is no role for OACT and the Trustees in considering the parts of current law relevant to those projections that seem to present the greatest challenge to sustainability (or desirability). Quite the contrary, by estimating the choices beneficiaries and providers will make under current law and the resulting Medicare expenditures that would incur, OACT and the Trustees are an impartial and important resource for informing this public debate. In addition, in deriving estimates of private sector medical spending growth that might be linked to growth in Medicare spending, it is likely that choices about future medical spending will change as the medical spending share cuts into other consumption. However, the way to address this issue is through the explicit modeling discussed above, not by imposing judgments about sustainability of some particular share. The Panel strongly believes that it is neither OACT's nor the Trustees' responsibility to base their forecasts on hypothetical policy changes that the government might impose.

Infinite Horizon Projections

Recommendation I-5: The Panel recommends that the Trustees Report not expand its presentation of infinite horizon projections beyond how they were reported in the 2004 Trustees Report.

The 2004 Trustees Report's long-range projections focus on the 75-year period from 2004 to 2078 for the Medicare program on an open-group basis (i.e., including past, current, and future participants). For example, In Table II.B.11 of that report, the present value of open-group, unfunded obligations for the HI program is reported to be $8.2 trillion, the equivalent of 3.0 percent of taxable payroll or 1.4 percent of GDP for that period.[6] In that same table, the corresponding unfunded obligations for the HI program over an infinite horizon are reported to be $21.8 trillion—5.3 percent of taxable payroll, or 2.4 percent of GDP.

Despite testimony heard by the Panel regarding the value of using the infinite horizon, the difficulties in preparing Medicare estimates raise questions about the usefulness of infinite horizon projections. The Panel advises against either including infinite horizon projections in the Trustees Report's Overview or replacing the 75-year projections with infinite horizon projections as the primary long-range measure of the HI trust fund's actuarial balance. Following are a few of the reasons why the Panel believes that the infinite horizon projections should not receive any more prominence in the Trustees Report:

- Cost projections for the HI and SMI trust funds rely not only on long-range forecasts of key economic and demographic variables but also on forecasts of the use and costs of medical services. Forecasting the future use and cost of medical services may be even more problematic than forecasting economic and demographic variables. As a consequence, long-range HI and SMI forecasts, especially those beyond 75 years, are extremely uncertain.
- The pattern of HI costs and deficits (and SMI costs for Parts B and D) is already apparent in the Medicare Trustees Report; existing material shows these projected financial issues clearly over the next 75 years. Readers can readily appreciate that, in the absence of legislation, the deficits and cost levels would continue to worsen. The infinite horizon projections add very little to the awareness of the projected long-range financial problems.
- The HI trust fund is far from being in actuarial balance; as already mentioned, the fund is now forecast to exhaust its assets in 2019 and will generate an unfunded obligation of 3.0 percent of taxable payroll over the next 75 years (2004 to 2078). The year-by-year deficits are projected to increase from 0.05 percent of payroll currently to 2.3 percent in 2030 and over 9.5 percent in 2078. It is not clear that focusing instead on an infinite horizon (with 5.4-percent payroll tax deficit) provides a better picture of the current long-range challenges faced by the HI program.

[6] Because both Parts B and D are funded through a combination of beneficiary premium payments and current tax revenues, the SMI program has no long-range unfunded balances.

Chapter II: Part D Projections

The Panel devoted a substantial amount of its time to reviewing the assumptions and methodologies underlying OACT and the Trustees' current projections of Part D prescription drug expenditures. This review included:

- Projections of Medicare beneficiary drug utilization and cost;
- Beneficiary participation in the Part D program;
- The responses of employers, including whether they will continue to offer prescription drug coverage to retirees or will alter or eliminate these benefits;
- Participation rates in the low-income subsidy program for those eligible to receive subsidies; and
- Other factors.

Overall, the Panel believes that OACT and the Trustees' current methodology and assumptions are generally reasonable and are likely to result in projections of Part D expenditures that fall within a reasonable range. (Recommendation II-1). The accompanying discussion of this recommendation includes the Panel's review of OACT and the Trustees' various assumptions and methods for Part D.

In three instances, however, the Panel recommends that OACT and the Trustees revise or monitor their current assumptions. First, the Panel recommends lowering beneficiary participation rates in the Part D program and incorporating an explicit model of beneficiary selection (Recommendation II-2). The Panel also recommends that OACT and the Trustees carefully monitor employer behavior and be prepared to modify their assumptions regarding how employers respond to the Part D program (Recommendation II-3). Finally, the Panel recommends that OACT and the Trustees reduce the proportion of Medicare beneficiaries covered by employer-provided prescription drug plans over time (Recommendation II-4).

The Panel emphasizes the considerable uncertainty surrounding the Part D methods and assumptions used by OACT and the Trustees. In response, the Panel recommends that OACT and the Trustees use additional data sources currently available to inform their Part D expenditure projections (Recommendation II-5) and that OACT and the Trustees use post-implementation Part D data to revise their projections as soon as these data become available (Recommendation II-6).

Part D Projection Methods and Assumptions

Recommendation II-1: The Panel concludes that OACT and the Trustees' projections of expenditures for the Medicare Part D program are within a reasonable range.

During its public meetings, the Panel reviewed OACT's Part D assumptions, methods, and projections in the following areas:

a) Estimating prescription drug spending per Medicare beneficiary in 2006 using the 1998 MCBS;

b) Modifying Medicare beneficiary prescription drug utilization and expenditure estimates as the Medicare Part D program results in modified insurance coverage (i.e., "induction");
c) Estimating the savings that PDPs and MA plans can secure through discounts, rebates, and benefits management;
d) Trending the Medicare Part D spending estimates forward from 2006 to 2013 using the NHE projections for prescription drugs;
e) Estimating PDP and MA plan administrative costs;
f) Determining how the Part D program will affect prescription drug prices;
g) Calculating the net costs of risk corridor payments to PDP and MA plans;
h) Determining whether beneficiaries will enroll in "full risk" PDP or MA plans or in "fallback" plans;
i) Estimating the number of eligible Medicare beneficiaries who will participate in the low-income subsidy program;
j) Projecting the number of Medicare beneficiaries who will elect to enroll in the Part D program; and
k) Predicting employer responses to Part D.

The Panel then concluded the following:

- Most of the individual assumptions made by OACT and the Trustees (items a through i above) are within reasonable ranges;
- The Panel recommends that OACT and the Trustees change their assumptions for items j (Recommendation II-2) and k (Recommendations II-3 and II-4); and
- Despite the changes suggested for items j and k, the Panel concludes that, due to the extreme uncertainty surrounding all the assumptions (a through k), OACT and the Trustees' current projections of Part D expenditures are within a reasonable range—but the range is admittedly quite broad.

(a) Using the MCBS to Estimate Prescription Drug Spending per Beneficiary

One of the greatest challenges OACT faced when projecting Part D costs was to estimate Medicare Part D spending per beneficiary. The Part D program is completely new. One consequence is that there are no comprehensive Medicare claims and other utilization data for Part D drug benefits. In the absence of such data, OACT needed to use other data sources, first to estimate Medicare beneficiary prescription drug use and costs, and then to adjust them for the impact of Part D.

In response, OACT developed a Medicare prescription drug micro simulation model. To model Medicare beneficiary prescription drug use, OACT started with the 1998 MCBS. The MCBS is prepared by the CMS Office of Research, Development, and Information (ORDI), and its features include the following:

- The MCBS is a representative national sample of the Medicare population, including the aged and disabled and those living in the community or in institutions (e.g., nursing homes);
- The MCBS interview data are linked to Medicare administrative and claims data;

- Medicare coverage, utilization, and expenditure data, including those for prescription drugs, are collected for a sample of 13,000 individuals;
- The MCBS also indicates beneficiary health insurance coverage, including prescription drug coverage (e.g., through a Medicare+Choice plan offering prescription drug coverage, through Medicaid, through an employer plan, or through a privately purchased Medigap plan); and
- Prescription drug information collected includes the name, form, strength, and size of each prescription, how often beneficiaries refilled their prescriptions, and the amounts that beneficiaries paid for these prescriptions. For beneficiaries with drug insurance, the full costs of each individual's prescriptions were imputed using information on national drug prices and the individual's source of coverage.

OACT engaged in an elaborate methodology to adjust and supplement the MCBS data set:

- The reported cost of each prescription reflected the beneficiary's insurance coverage. To estimate the undiscounted "full cost," each prescription was assigned a purchase price depending on what the beneficiary reported about the prescription (e.g., name, form, strength, and size) and payer;
- As the MCBS asks beneficiaries to recall service use in the past year, it was expected that there would be potentially significant underreporting of prescription drug use. To address this concern, a measure of potential underreporting by each individual was created by linking reported MCBS physician use to actual Medicare Part B physician claims data. OACT estimated a regression equation predicting prescription drug use for MCBS respondents who reported all their physician encounters, and used the results of these regression estimates to correct for underreporting in the remainder of the MCBS sample. On average, the underreporting corrections increased prescription drug use by approximately 20 percent; and
- No drug use data are collected for MCBS respondents living in institutions (although institutional residents are included in the MCBS). To correct for this problem, OACT used results from the Program for All-Inclusive Care for the Elderly (PACE) Demonstration Project in Pennsylvania (which collected drug utilization and cost data for seriously disabled Medicare beneficiaries who were living in both community and institutional settings but who would have qualified for nursing home care under the Medicaid program).

The Panel reviewed OACT's use of the MCBS and its corresponding drug cost projection methodology and considers both to be reasonable. At the same time, the Panel noted that this methodology includes many sources of uncertainty. For example:

- The 1998 survey is a relatively small (13,000 respondents) and increasingly outdated sample; and
- OACT needed to make a large number of assumptions to project Medicare prescription drug use and costs from the 1998 MCBS, and each of these assumptions is subject to uncertainty.

OACT reported that it is addressing some of these concerns. For example, OACT intends to use the 2001 MCBS for its Medicare prescription drug use and cost estimates in the 2005 Trustees Report. In

addition, the 1999 MCBS was matched to pharmacy data indicating the actual drugs prescribed to MCBS respondents.[7] OACT intends to use these 1999 "follow-back" data to improve its projections of MCBS underreporting. The Panel supports both of these decisions.

(b) Induction

By changing the insurance coverage of Medicare beneficiaries, the Part D program also changes the out-of-pocket expenses they face for drugs. If an individual's drug coverage improves (or worsens) as a result of Part D, one could expect that that individual would have higher (or lower) drug expenditures as he or she is induced to demand more (or fewer) drugs. OACT's methodology for modeling induction was complex and included the following steps:

- There is no drug expense induction for beneficiaries whose drug expenditures exceed $3,000;
- There is no induction for Medicare-Medicaid dual eligibles; and
- In all other cases, for each dollar that a Medicare beneficiary's out-of-pocket drug costs are reduced (or increased) as a result of Medicare Part D, that beneficiary's drug expenses are increased (or reduced) by one dollar—i.e., there is dollar-for-dollar induction.

For the 2006 projections, the net result of induction is to increase per capita drug expenses from $2,710 to $3,030, or 11.8 percent.

Though the Panel did not consider the assumptions regarding induction unreasonable, some members expressed reservations about using a set of such assumptions rather than estimating the behavioral response to coverage in terms of elasticities (i.e., how much more in percentage terms an individual will demand for a given percentage decrease in price). For drugs, price elasticity estimates have ranged between –0.1 and –0.4, centering around –0.25. In other words, for each 10-percent decrease in out-of-pocket drug prices, individual drug consumption is expected to increase by 1.0 percent (price elasticity of –0.1) to 4.0 percent (price elasticity of –0.4), with these effects centering around 2.5 percent (for a price elasticity of –0.25). OACT calculated that its induction assumption corresponded to an implicit price elasticity that averaged –0.29 across respondents in the 1998 MCBS.[8]

However, this average reflects widely varied elasticity assumptions within sub-populations (though under current induction assumptions, elasticities by various subpopulations are generally within the -.10 to -.40 range). Specifically, beneficiaries with substantial existing coverage have an implied elasticity of -.10 (though low-income individuals tend to be more price sensitive than higher income individuals), and those without coverage have an implied elasticity of -.40, which is at the high end of the range supported by the literature. Moreover, the assumption of no response for individuals with an excess of $3,000 in spending may be incorrect. Individuals with large prescription drug expenditures, in aggregate or out-of-pocket, are not insensitive to changes in out-of-pocket prices.

[7] The *HCFA Review*, Vol. 25, No. 2, Winter, 2003-2004, describes this underreporting analysis conducted by the CMS Office of Research, Development, and Information (ORDI). Even though this "follow-back" analysis was not based on claims data, typically pharmacy records are a more accurate measure of prescription drug utilization than are self-reported measures from MCBS respondents.

[8] CBO used a common price elasticity of –0.3, yielding a drug induction increase of 9 percent.

Thus, while the induction assumptions may not be accurate on an individual level, the aggregate induction assumptions appear to yield elasticity estimates that are not unreasonable.

In making induction or elasticity assumptions, it is important to recognize that the cost sharing provisions proposed in the MMA are unusual. It is therefore hard to apply existing literature. Once the program is rolled out, the price responsiveness will become clearer.

(c) PDP and MA Plan Drug Cost Savings Estimates

OACT and the Trustees project that the PDP and MA plans will be able to secure significant drug cost savings. These savings reflect the following factors:

- Price discounts and rebates;
- Generic substitution and the use of formularies;
- Incentives to use mail-order pharmacies instead of retail pharmacies; and
- Utilization review and control.

Many of these savings are currently being achieved by employer plans and Medicaid plans that cover Medicare beneficiaries. OACT first increased baseline prescription drug costs by removing estimated savings for employer and Medicaid plans and then applied the PDP and MA savings rates shown in Table 2. The intermediate alternative assumes total savings of 15 percent in 2006, rising 2 percentage points per year until it reaches 25 percent in 2011. Total savings are then assumed to remain at 25 percent for 2011 and beyond.[9] OACT and the Trustees based these assumptions on research of, and conversations with, Pharmacy Benefit Management (PBM) companies and other large private purchasers of drugs. This analysis indicated to OACT and the Trustees that the savings levels projected for 2006 are already being achieved by these large purchasers.

Table 2
OACT and Trustees' Projections of Drug Plan Discount and Drug Management Savings Percentages: 2006-2013

Year	Intermediate Alternative	Low Cost Alternative	High Cost Alternative
2006	15%	20%	15%
2007	17	22	16
2008	19	24	17
2009	21	26	18
2010	23	28	19
2011	25	30	20
2012	25	30	20
2013	25	30	20

Source: Table III.B.12 of the 2004 Trustees Report.

[9] CBO expects total savings to be 20 percent in 2006 and 25 percent by 2013.

The Panel agrees that these drug savings percentages are reasonable. While the Panel considered recommending that drug savings percentages for the low and high cost alternatives be widened, it ultimately decided against making such a recommendation. These assumptions, however, are highly uncertain, given the incomplete status at present (December 2004) of final regulations for implementing Part D. For example, the MMA requires that HHS specify a set of drug categories. PDP and MA plans that cover at least two drugs in every drug category will likely be in compliance with CMS regulations.[10] The plans' ability to save costs will depend on the number of categories specified by HHS. More categories imply that plans must cover more drugs, weakening the plans' ability to negotiate discounts and perhaps to manage utilization and costs.

(d) Using the National Health Expenditures (NHE) for Prescription Drugs to Trend Part D Costs

OACT needed to trend forward to 2013 its Medicare beneficiary drug expenditure estimates based on the 1998 MCBS, as part of its estimates of the costs of the MMA, including the Part D program. To do so, OACT used the per capita drug cost increases from its own NHE projections (Table 3). The projected NHE prescription drug cost increases imply that per capita drug costs will rise by 179 percent from 1999 to 2006 and by 423 percent from 1999 to 2013. Under OACT's low and high cost assumptions, cost increases are +/-2 percentage points each year, relative to the intermediate assumptions. The cumulative effects of these alternative assumptions are quite large: by 2013, estimated Part D per capita drug costs would increase by 336 percent under the low cost alternative but by 527 percent under the high cost alternative.

[10] Plans will be required to satisfy CMS that proposed formularies are non-discriminatory and may do so by adopting existing widely used formularies and Medicaid preferred drug lists that provide broad coverage for seniors and persons with disabilities.

Table 3
OACT and the Trustees Report Per Capita Drug Cost Increases: 1999-2013

Year	Intermediate Assumption (2003 NHE Projection Factor)	Low Cost Alternative (NHE – 2 Percentage Points)	High Cost Alternative (NHE + 2 Percentage Points)
1999 (Actual)	18.6%	18.6%	18.6%
2000 (Actual)	15.3	15.3	15.3
2001 (Actual)	14.8	14.8	14.8
2002 (Actual)	14.3	14.3	14.3
2003 (Projected)	12.3	12.3	12.3
2004 (Projected)	11.9	9.9	13.9
2005 (Projected)	11.4	9.4	13.4
2006 (Projected)	11.1	9.1	13.1
2007 (Projected)	10.7	8.7	12.7
2008 (Projected)	10.3	8.3	12.3
2009 (Projected)	9.8	7.8	11.8
2010 (Projected)	9.3	7.3	11.3
2011 (Projected)	8.8	6.8	10.8
2012 (Projected)	8.6	6.6	10.6
2013 (Projected)	8.3	6.3	10.3
1999 to 2006 Combined	179.1%	164.3%	194.4%
1999 to 2013 Combined	423.3%	335.6%	526.6%

Source: OACT, September 22, 2004. Sums may not add due to rounding.

The NHE prescription drug projections are part of OACT's overall NHE projections. Health care is decomposed into personal health care (PHC) and non-personal health care (non-PHC), and separate, "top-down"[11] econometric models of each health care sector are estimated. Outputs from the sector-specific models are constrained to be consistent with estimates for an aggregate projection model for total PHC expenditures, with the important exception of prescription drugs.

The NHE prescription drug model is a two-part model. First, the following two econometric equations are estimated (the "econometric model"):

1. Prescription drug spending growth is the dependent variable. The independent variables include:
   - Real per capita income;

[11] According to OACT's *Projections of National Health Expenditures: Methodology and Model Specification* (February 19, 2004), the NHE Projection Model is a "top-down" model in that the growth in private health care spending and medical inflation is primarily determined at the aggregate level on the basis of exogenous projections of macroeconomic variables, actuarial projections of spending for the Medicare and Medicaid programs, and health sector assumptions.

- Relative drug price inflation;
- New drug introductions; and
- Direct-to-consumer advertising.

2. Prescription drug price inflation is the dependent variable. The independent variables include:
   - Input price inflation;
   - Drug research spending; and
   - A dummy variable for 1993 and beyond.

The 2003 NHE prescription drug estimates used yearly data from 1965 to 2002 (i.e., time series data) to estimate these two equations. Both dependent variables were specified in log difference form, and many of the independent variables in each equation were entered with lags (including polynomial distributed lags) or as moving averages. The choice of moving average and lag structures for independent variables in the model was based on a combination of judgment (how long it would be before one might expect these variables to have an impact) and how well different specifications fit the data. A dummy variable was used to capture the effects of managed care and PBMs, replacing a variable measuring managed care market share in previous model specifications.[12]

In the second part of the NHE prescription drug model, the estimates of private prescription drug spending from the econometric model are adjusted to reflect the impact of factors outside of the econometric model, or so-called "add factors." These add factors could include forecasts of the introduction of new drugs, especially "blockbuster drugs," patent expirations, and other expert judgments. CMS uses information from other forecasts, including IMS Health, Express Scripts, and Medco, as well as consultation with outside experts (including CBO, faculty at the University of Maryland School of Pharmacy, and members of the Society of Actuaries) to help prepare its add factor forecasts.

OACT plans a number of model changes for its 2004 projections, including:

- Estimating prescription drug spending from all sources of funds, not just private spending;
- Restricting the data used to estimate the model to 1984 and beyond; and
- Adjusting the lag structure of independent variables included in the econometric model.

The Panel agrees that the OACT NHE prescription drug projections are reasonable, but it did have several concerns related to the econometric model's independent variables and overall model add factors. Many of the econometric model's independent variables, including new drug introductions, drug research spending, and direct-to-consumer (DTC) advertising, are, themselves, difficult to forecast. This level of uncertainty is unavoidable given the inherent uncertainty regarding the prescription drug industry's innovations, particularly in developing new drugs.

The Panel suggests that OACT consider how to make its forecasts of key model independent variables and use of add factors more transparent, including:

- Providing more detail on how independent variables and add factors are forecast;

[12] OACT believes that with the enormous growth in managed care enrollment and the shift towards less restrictive managed care models, this variable's ability to proxy for a managed care effect became weaker.

- Detailing which add factors are used to adjust the econometric model's results; and
- Reporting prescription drug forecasts based on the results of the econometric model alone as well as after the add factors are included.

In addition, the Panel discussed OACT's current informal process for consulting with industry and other experts regarding add factors and other issues and deliberated whether this process should be made more formal, perhaps through convening a formal advisory panel. Ultimately, the Panel decided that the current, more informal and unstructured process for consulting with industry and experts is preferable to a more formal and structured approach.

For the purposes of illustration, the next two tables (Tables 4 and 5) provide some additional information regarding the NHE prescription drug expenditure estimates. Per capita prescription drug cost increases projected for the NHE at different points in time are presented in Table 4. Entries in Table 4 include both historical values (shaded entries) and NHE projections (unshaded values). The NHE per capita prescription drug cost projections are subject to estimation error, particularly those further in the future. Projection errors can involve both over- and under-estimates. For example, projections from 2001 and beyond both under- and over-predicted actual rates of growth.

Table 4
NHE Per Capita Prescription Drug Cost Annual Rates of Growth Projections at Different Release Dates

Projection Year(s)	NHE Projection Release Date				
	September 1998	March 2001	March 2002	February 2003	February 2004
1997	13.1%	10.8%	11.7%	11.7%	11.7%
1998	13.0	12.4	14.0	14.2	14.2
1999	10.9	15.8	18.1	18.6	18.6
2000	10.5	16.5	16.2	15.4	15.3
2001	10.1	15.1	15.5	14.6	14.8
2002	9.8	13.3	12.6	13.3	14.3
1997-1999	41.7	44.2	50.4	51.3	51.3
1997-2000	56.6	68.0	74.7	74.6	74.4
1997-2001	72.4	93.4	101.8	100.1	100.3

Source: OACT, November 2004 communication. Note that shaded table entries are based on historical values, while unshaded entries are based on NHE projections. Preliminary historical estimates are revised when new information becomes available.

Table 5 presents a comparison of BCBS FEHBP and NHE prescription drug costs. In examining this comparison, however, it is important to consider factors influencing each set of prescription drug costs. Two significant BCBS FEHBP programmatic changes lowered prescription drug cost increases during this period: in 2000, BCBS FEHBP utilization decreased due to a benefit change, and in 2002, a cost reduction initiative further limited cost increases. Excluding those 2 years, BCBS FEHBP annual average per capita cost increases (16.1 percent overall, 16.4 percent for Medicare 65 and above) were much closer to the 15.2-percent annual increase for the NHE for the same years. On the other hand, many other health insurance plan sponsors took steps to reduce the costs of prescription

drugs between 1999 and 2003. These steps were spread through all years and the savings resulting from the steps cannot be isolated. If the effect of the cost savings could be removed the NHE average increases would be higher than shown in the table.

Table 5
Per Capita Prescription Drug Cost Annual Rates of Growth: BCBS FEHBP and NHE, 1999-2003

Average Annual Rates	BCBS FEHBP		NHE
	All Enrollees	Medicare Enrollees Age 65 and Above	
1999-2003	11.9%	11.2%	15.0%
1999, 2001, and 2003	16.1	16.4	15.2%

Source: OACT, November 4, 2004 communication.

(e) PDP and MA Plan Administrative Cost and Risk Charge Estimates

The PDP and MA plans will incur costs other than the direct costs of prescription drugs, including expenses for:

- Claims processing;
- Marketing;
- Member acquisition and retention; and
- Risk charges.

OACT and the Trustees combined these expenses into an "administrative loading factor" and projected that, under the intermediate assumption, these costs would decline gradually from 12.7 percent in 2006 to 10.7 percent by 2013 (Table 6). The Panel considers these assumptions to be reasonable.

Table 6
OACT and Trustees' Projections of Drug Plan Administrative Loading as a Percentage of the New Premium: 2006-2013

Year	Intermediate Assumption	Low Cost Alternative	High Cost Alternative
2006	12.7%	7.7%	17.7%
2007	12.2	7.5	16.8
2008	11.9	7.4	15.9
2009	11.6	7.3	15.2
2010	11.4	7.3	14.7
2011	11.3	7.3	14.3
2012	11.0	7.3	13.7
2013	10.7	7.2	13.2

Source: Table III.B.12 of the 2004 Trustees Report.

(f) Impact of Part D on Existing Drug Prices

The Panel acknowledges that projecting the effect that the Part D program will have on drug prices is extremely difficult and uncertain. On the one hand, Part D may reduce constraints on increasing drug prices. To some degree, the out-of-pocket costs borne by those using drugs act as a natural "anchor" on drug prices. To the extent that the Part D program reduces out-of-pocket costs for many Medicare beneficiaries by improving their drug coverage, this anchor will be weakened, and only those who continue to face high out-of-pocket drug costs—mostly non-Medicare (under age 65) individuals who lack drug coverage—will continue to retard drug cost growth. Under this scenario, the prices of drugs for which no close substitutes exist, as well as prices for new drugs (launch prices), may increase significantly.

On the other hand, it is difficult to know how large such effects may be. To the extent that most drugs (and most drugs that are prescribed) have close substitutes, and to the extent that new drugs are "me too" drugs as opposed to major therapeutic advances (i.e., "blockbuster" drugs), upward pressure on drug prices may be minimal. Put another way, most of the "me too" drugs will fall into existing drug categories already covered by Part D. The major therapeutic advances will most likely form new drug categories that Part D will then have to cover. It is very uncertain whether Part D will have any additional effects on increasing the launch prices of major therapeutic advances.

In addition, the non-Medicare (under age 65) market may place downward pressure on drug prices as PBMs and other large purchasers continue to negotiate discounts and rebates. Under Part D, the PDP and MA plans also have strong incentives to negotiate lower prices with drug manufacturers. It is possible that PDP and MA plans may negotiate lower prices for drugs lacking close substitutes or for new blockbuster drugs in return for agreeing to include a manufacturer's other drugs in the plans' formularies.

Given these offsetting forces and in the absence of other relevant data, the Panel agrees with OACT and the Trustees' assumption that average drug prices will not change as a result of the Part D program's implementation.

(g) Risk Corridors

To encourage PDPs to participate in the Part D program, the MMA established a system of risk corridors and payments. These risk corridors operate as follows:

- For 2006 and 2007, plans are at risk for all gains and losses within 2.5 percent of their expected costs. For example, if a plan expected its benefit costs to be $1,000 per beneficiary, plan payments would not change if actual benefit costs were between $975 and $1,025. If plan benefit costs differed by more than 2.5 percent but less than 5.0 percent of expected costs, plan payments would be increased or decreased by 75 percent of the difference. Consequently, if a plan's expected costs were $1,000 but its actual costs were $1,050, the Medicare risk-sharing payment would be 75 percent of the difference above $1,025 (($1,050 - $1,025)*75 percent = $18.75) per beneficiary. Conversely, if that plan's actual costs were $950 per beneficiary, the plan would have to

pay 75 percent of the difference below $975 (($975 - $950)*75 percent = $18.75) back to the HHS risk-sharing "pool." Finally, risk-sharing payments (penalties) for costs or savings in excess of 5.0 percent of expected costs would amount to 80 percent of those excess costs (or savings).[13]

- For the 2008 to 2011 period, the risk corridor thresholds increase as follows:
  - Plans are now at risk for the first 5.0 percent of any gains or losses (as a percentage of expected costs);
  - Plans receive 50 percent of costs (and pay 50 percent of the savings) for the range of 5.0 to 10.0 percent of expected costs (or savings); and
  - Plans would continue to receive 80 percent of the costs (or pay 80 percent of the savings) for amounts in excess of 10 percent of expected costs (or savings).

Thus, risk corridor payments are symmetric. OACT and the Trustees believe, and the Panel agrees, that there is no reason to expect plans to be more likely to receive risk corridor payments or to pay excess gains back into the risk corridor pool. Not only is OACT required by the MMA to carefully scrutinize each plan's bid, including the plan's expected costs, with care, but plans must still face a substantial portion of the costs (or gains) above the risk corridor thresholds, providing plans with little incentive to intentionally bid premiums that are either too low or too high.

(h) Fallback Plan Enrollment

The MMA requires that beneficiaries in all regions have the choice of at least two plans. (One plan must be a PDP, but the second plan can be either a PDP or an MA plan.) If at least two plans do not enter each region, the MMA allows for the provision of so-called reduced risk plans (i.e., plans that will be provided with narrower risk corridors to reduce the risks they face) or even "fallback plans" that provide benefits on a "performance risk" basis (i.e., plans are reimbursed for all costs incurred in providing benefits, but a portion of their administrative fees would depend on meeting certain performance requirements). The Panel agrees with OACT and the Trustees that very few, if any, regions will fail to draw at least two plans and that enrollment in reduced risk and fallback plans will be minimal and likely will decline over time as the Part D plan market matures. Thus, the Panel agrees that fallback provisions should not be modeled in the current OACT and Trustees' Part D projections.

(i) Low-Income Subsidy Program

The MMA provides subsidies to several different categories of low-income beneficiaries. For convenience, these categories can be summarized into the following two groups:

- Subsidy Group A—Individuals are either dual eligibles or have income less than 135 percent of the Federal poverty level and assets less than $6,000 for individuals and $9,000 for couples. OACT estimates that there will be 12.1 million Medicare beneficiaries (6.1 million current full dual eligibles, 1.2 million who currently receive

[13] If a sufficient number of plans serving a substantial majority of enrollees received risk corridor payments for the year, the MMA would increase the share of costs covered from 75 to 90 percent.

other Medicaid benefits, and 4.9 million others meeting the income and assets test) in Subsidy Group A in 2006; and

- Subsidy Group B—Income limits are 150 percent of the Federal poverty level, and asset limits are $10,000 for individuals and $20,000 for couples. OACT estimates that an additional 2.4 million Medicare beneficiaries will be in Subsidy Group B in 2006.

Benefits under the two subsidy programs include the following:

- Group A—The premiums of beneficiaries in Group A will be fully subsidized up to the higher of the national average premium or the lowest cost premium in the beneficiary's region. Low-income subsidy payments will also cover Group A beneficiary deductibles, and beneficiary cost-sharing will be reduced as follows:
  - The dually eligible residing in nursing homes will not face any beneficiary cost sharing;
  - There is no beneficiary cost sharing above the catastrophic threshold (and low-income subsidy payments will count towards the true out-of-pocket (TrOOP) catastrophic threshold);
  - Co-payments for beneficiaries with incomes below the Federal poverty level will be $1 for generic and $3 for other covered drugs in 2006 (these co-payments will be indexed at the growth in per capita drug expenditures for the Medicare population); and
  - Beneficiaries with incomes between 100 and 135 percent of poverty will face co-payments of $2 for generic and $5 for other covered drugs in 2006 (and these co-payment amounts will also be indexed).
- Group B—Beneficiaries in Group B with incomes less than or equal to 135 percent of poverty will receive the same premium subsidies as Group A beneficiaries, and these premium subsidies slide to zero as beneficiary incomes increase from 135 to 150 percent of poverty.[14] Beneficiary cost sharing will be limited to a $50 deductible and 15-percent coinsurance for beneficiaries below the 135-percent threshold, and cost sharing for beneficiaries above the threshold will be either $2 or $5 per drug in 2006 (and these co-payments will also be indexed).

OACT needed to estimate the number of beneficiaries eligible for the low-income subsidies who would enroll in the program (see Table 7). Eligibility estimates were based on a combination of administrative data (for the dually enrolled) and an analysis of the Current Population Survey (to estimate the number of beneficiaries meeting the income and asset tests). To estimate what fraction of those eligible would enroll, OACT relied on the experience of the dually eligible, qualified Medicare beneficiary (QMB) and specified low-income Medicare beneficiary (SLMB) programs. OACT determined that:

- Approximately 80 percent of those dually eligible for Medicaid have enrolled, and this benefit is approximately $12,000 on average; and

[14] Beneficiaries with incomes less than 135 percent of poverty may qualify for Group B but not for Group A if they meet the Group B ($10,000 for individuals, $20,000 for couples) but not the Group A ($6,000 for individuals, $9,000 for couples) asset limits.

- Lower percentages have enrolled in the QMB (average benefit of $2,600) or SLMB (average benefit of approximately $900) program.[15]

Given that OACT assumed that the low-income subsidy (plus standard Part D subsidies) would be worth on average approximately $4,000 to beneficiaries in 2006, OACT projected that the percentage of those eligible for the low-income subsidy who enroll in the program would be less than the participation rate for the Dually Eligible program but greater than that for the QMB or SLMB program. In other words, individuals who could currently qualify for the very valuable full Medicaid coverage, but have not done so, were assumed to be less likely to seek the Part D low-income assistance, which is of lesser value than the forgone Medicaid benefits. Conversely, those eligible for QMB or SLMB benefits, but who are not receiving them, could gain substantially more value from Part D; a higher proportion of such beneficiaries were assumed to enroll.

With rounding, OACT estimates that a total of 14.5 million Medicare beneficiaries are eligible for the low-income subsidies (Table 7) in 2006. Of that total, 10.9 million are assumed to participate in the low-income subsidies—all 7.2 million current dual eligible, QMB, and SLMB beneficiaries, and 3.7 million of the other 7.3 million (51 percent) meeting the low-income subsidy income and asset tests.[16]

[15] CBO (July 2004) estimated that QMB and SLMB benefits would average $3,000 and $900, respectively, in 2006 and that one-third of those eligible for QMB, and 13 percent of those eligible for SLMB, would enroll. The QMB program pays enrollee Part B premiums, deductibles, and coinsurance, while the SLMB program pays beneficiary Part B premiums only. Medicare beneficiaries must meet income and asset tests to qualify for QMB or SLMB, and these tests are stricter for QMB.

[16] Included in the 3.7-million estimate are 1.1 million "wood-work" beneficiaries. These individuals currently qualify for, but do not receive, Medicaid benefits as dual eligibles, QMBs, or SLMBs. OACT estimates that about 25 percent of such beneficiaries will learn of and apply for the Part D low-income subsidy and during this process will be found eligible as well for the applicable Medicaid benefits.

Table 7
OACT Projections of Those Eligible for and Electing Low-Income Drug Subsidy: 2006

Eligibility Group	Number Eligible for Low-Income Subsidy (millions): 2006	Number Projected to Elect Subsidy (millions): 2006	Percentage of Those Eligible Electing Subsidy: 2006
Group A_1: Current Dual Eligibles, QMBs, and SLMBs	7.2	7.2	100.0%
Group A_2: Others with income < 135% of Poverty, Assets < $6,000 for Individuals and $9,000 for Couples	4.9	2.1	42.9
Group B: Income < 150% of Poverty, Assets < $10,000 for Individuals and $20,000 for Couples	2.4	1.5	62.5
Total	14.5	10.9	75.2

Source: OACT, September 22, 2004.

The Panel believes that OACT's intermediate assumptions regarding participation in the low-income subsidy program are reasonable. Further, the Panel would not advise increasing these participation rates for the following reasons:

- Other participation rate projections, most notably CBO's projections (30 to 45 percent), are lower; and
- Participation, particularly when the Part D program is first implemented, may be slow until those eligible for the low-income subsidies learn more about them and how to apply.[17]

(j) Beneficiary Participation in the Part D Program

Recommendation II-2: The Panel recommends that OACT and the Trustees reduce the number of Medicare beneficiaries expected to participate in the Part D program and incorporate an explicit model of beneficiary selection.

The Panel specifically recommends that OACT modify its assumption regarding the number of Medicare beneficiaries expected to participate in the Part D program. OACT projects that in 2006, 43.1 million Medicare beneficiaries will be eligible to enroll in Part D. Medicare is the secondary

[17] In addition to the anticipated CMS outreach efforts, the Panel also believes that third parties, including PDP and MA plans, and beneficiary advocacy groups, will have incentives to inform Medicare beneficiaries who may qualify for low-income subsidies about these benefits, to encourage enrollment in their plans.

payer for 2.0 million of these beneficiaries, and these individuals are not assumed to enroll in Part D. Another 7.2 million beneficiaries are dual eligibles, QMBs, or SLMBs who will be automatically enrolled. Of the remaining 33.9 million, 99 percent, or 33.5 million beneficiaries, are expected to enroll in Part D.[18]

OACT assumes that Part D enrollment will be so high primarily for two reasons:

- The value of Part D prescription drug coverage is high relative to its costs (at most, beneficiaries will pay only about 25.5 percent of total Part D costs); and
- Beneficiaries must pay permanent penalties (1 percent of premium costs per month) for each month that they delay enrolling in the Part D program.

The Medicare beneficiaries most likely not to enroll are those with the lowest expected drug costs. There would be little reduction in Part D costs if this type of beneficiary were to opt out. Therefore, OACT reasoned that the Part D cost estimates would not be greatly affected even if there were an explicit assumption regarding lower participation for beneficiaries with low drug costs.

At the Panel's request, OACT simulated four scenarios in which varying fractions of beneficiaries with the lowest health care expenditures decided not to participate in the Part D program (Table 8). Two primary factors account for the four scenarios' results. First, lower enrollment reduces total prescription drug expenditures for enrolled beneficiaries, since fewer individuals are participating. Because these individuals have costs in the lowest part of the distribution, total expenditures are not reduced proportionately to the decrease in enrollment. Stated another way, the average drug cost per beneficiary, for those remaining covered, increases by almost enough to offset the lower number of enrollees. Second, premium revenues from beneficiaries are reduced proportionately. As a result, net Medicare expenditures (benefit payments plus administrative costs minus premiums) increase somewhat.

[18] This number includes Medicare beneficiaries with primary drug insurance coverage provided by employer-sponsored retiree health plans, where the sponsor receives the Medicare employer drug subsidy.

Table 8
OACT Simulations of Alternative Beneficiary Participation Scenarios for the Part D Program

Scenario	Participation Assumption Relative to Current OACT Assumptions	Effect on Total Part D Covered Drug Expenditures	Effect on Net Federal Part D Costs
One	25% of non-Medicaid beneficiaries in lowest prescription drug cost quintile (bottom quintile) do not participate	Decreases by 0.1%	Increases by 1.4%
Two	50% of non-Medicaid beneficiaries in bottom quartile do not participate	Decreases by 0.9%	Increases by 2.8%
Three	85% of non-Medicaid beneficiaries in bottom quartile do not participate	Decreases by 1.5%	Increases by 4.7%
Four	75% of non-Medicaid beneficiaries below the 35th percentile of prescription drug costs do not participate	Decreases by 4.8%	Increases by 1.8%

However, the Panel believes that Part D enrollment may not be as high as OACT and the Trustees project and that non-enrollees will not solely comprise beneficiaries with limited drug spending. Unlike Part A, enrollment in the Part B and Part D programs is voluntary. And whereas beneficiaries must take an action to decline enrollment in Part B, they must make a conscious decision to enroll in Part D. The requirement that beneficiaries must consciously choose to enroll in Part D could reduce enrollment even further. Reasons why Medicare beneficiaries in general may decide not to participate in Part D include the following:

- Price sensitivity—Some beneficiaries may be reluctant to pay their Part D premiums and thus might decide not to enroll;[19]
- Lack of information—Beneficiaries may not be fully aware of the Part D program and its benefits or may not know how and where to enroll. This factor may be particularly salient for low-income beneficiaries;
- Beneficiary preferences for enrolling in a new government program; and;
- Selection—Some Medicare beneficiaries may expect that their benefits under the program will be lower than their premiums and may not place much weight on the late-enrollment penalty that would apply if they later chose to enroll.

For these reasons, the Panel recommends that OACT and the Trustees reduce their assumptions regarding the number of beneficiaries participating in Part D, as follows:

- Continue to assume that all Medicare-Medicaid dual eligibles, QMBs, and SLMBs automatically enroll in Part D (7.2 million in 2006);

[19] A portion of these might be that low-income beneficiaries may not be able to afford their Part D premiums. However, many, if not most, of the individuals having difficulties affording their Part D premiums will be dual eligibles or others who will qualify for the Part D program's low-income subsidy provisions that pay all or much of their premiums and most of the beneficiary co-payments.

- Continue to assume that beneficiaries for whom Medicare is a secondary payer do not enroll in Part D (2.0 million in 2006); and
- Of the remaining beneficiaries (43.1 million – 7.2 million – 2.0 million = 33.9 million), assume that 90 percent, rather than 99 percent, will participate, and further assume that:
  - Half (5 percentage points) of the 10 percent not enrolling have drug spending in the lowest quintile in 2006; and
  - Half (5 percentage points) of the 10 percent are randomly distributed across all those eligible for Part D.

It is likely that the lower participation rates recommended by the Panel, however, will lower both total and Federal spending. The first of the four scenarios described above—i.e., wherein one-fourth of the bottom quintile do not enroll—is almost identical to the first part of the Panel's recommendation (that 5 percentage points of the lower enrollment be confined to those in the bottom quintile). As the results of the first scenario suggest, this change would likely leave total spending almost unaffected and increase Federal spending by a small amount. The impact of the second part of the Panel's recommendation—to assume that an additional 5 percent of beneficiaries (excluding those who automatically enroll and those for whom Medicare is a secondary payer) decide not to enroll in Part D—will likely decrease total and Federal spending proportionately. This decrease is likely because not only beneficiary premiums but also Federal spending will decline proportionately, since these individuals are of average risk.

(k) Employer Responses

Recommendation II-3: The assumptions used to predict the employer reactions to Part D and the costs of those actions were reasonable for the 2004 Trustees Report, but evolving information now suggests that employers may react differently. The Panel recommends that OACT and the Trustees monitor the rapidly changing environment and modify their employer behavior assumptions accordingly.

Employers who cover retirees in their health plans can take one of four actions in response to Part D:

- Continue the plan and accept the 28-percent tax-free subsidy;
- Modify the plan to wrap around Medicare Part D;
- Become a PDP; or
- No longer provide prescription drug benefits to retirees eligible for Medicare.

OACT primarily considered the first and fourth approaches as it made its projections.[20] Its assumptions regarding the percentage of employers who would drop prescription drug coverage and regarding the Federal shares of the costs of the first or fourth approaches were reasonable given the current state of knowledge when the 2004 Trustees Report was being prepared.

[20] OACT implicitly considered groups 2, 3, and 4 together, on the grounds that virtually all such individuals would be in a Part D drug plan. Conversely, group 1 retirees would have primary coverage through their employer-sponsored plans, rather than through Part D. In practice, OACT believed that there would be very few plans in categories 2 and 3.

OACT divided employers now offering retiree prescription drug coverage into four groups and made differing assumptions regarding the number who would continue to offer these plans and accept the 28-percent subsidy payments (Table 9). The Federal Government is expected to continue to offer all its retirees prescription drug coverage. State and local government and private union employers are expected to be likely to continue to offer plans; 75 percent of these retirees are assumed to be enrolled in an employer plan in 2006 where that employer receives subsidy payments. Finally, OACT assumed that private non-union employers are the least likely to continue to offer coverage and receive subsidy payments (40 percent of such retirees are assumed to be in plans that will be discontinued by 2006). Thus, 75 percent of retirees now covered by employer prescription drug plans (8.5 of 11.3 million in 2006) are expected to continue to receive primary drug coverage from these plans, with the plans receiving employer drug subsidies under Part D.[21]

Table 9
OACT Assumptions Regarding the Number of Medicare Retirees Whose Employers Will Continue to Offer Prescription Drug Coverage and Receive Subsidy Payments: 2006

Employer Type	Number of Retirees with Current Prescription Drug Coverage (millions)	Number of Retirees Whose Employer Will Continue to Offer a Prescription Drug Plan and Receive Part D Subsidy Payments (millions)	Percentage of Retirees Whose Employer Will Continue to Offer a Prescription Drug Plan and Receive Part D Subsidy Payments
Federal	2.2	2.2	100%
State and Local	3.2	2.4	75
Private Union	2.4	1.8	75
Private Non-Union	3.5	2.1	60
Total	11.3	8.5	75

Source: OACT, September 22, 2004.

OACT and the Trustees also assumed that almost all employers who decide not to receive subsidy payments will drop their plans[22] and that only 0.95 percent of employers will offer wrap-around coverage or decide to become a PDP. OACT and the Trustees' rationale for assuming few employers will offer wrap-around coverage is based on the following reasons:

- Subsidy payments are tax-advantaged—The 28-percent subsidy payments received by employers are not subject to corporate taxes. This means that the subsidy amount (which OACT estimates to be $611 per retiree in 2006) is worth considerably more ($900 or more

[21] The Trustees Report's intermediate assumption is that 21.0 percent of all Medicare beneficiaries will be enrolled in employer-sponsored plans from 2006 to 2013 (Table III.B.12 of the *2004 Trustees Report*).

[22] For estimation purposes, it is of little consequence to OACT and the Trustees whether employers who do not elect to receive subsidies drop their plans or decide to convert their plans into a PDP. In either case, Federal obligations are the same, assuming that those retirees whose employers did not elect to continue their existing plans and receive subsidies enroll in a Part D PDP or MA plan.

per retiree) on an after-tax basis for those employers subject to corporate taxes. The subsidy would not be as valuable to state or local governments or non-profits who do not pay corporate taxes;

- The True Out-of-Pocket (TrOOP) thresholds—Employer wrap-around insurance coverage payments will not be counted in determining if a retiree meets the threshold for Part D catastrophic coverage, because that threshold considers only the retiree's TrOOP payments; and
- The administrative effort required by the employer to convert from existing retiree plans to a new type of coverage wrapping around the Medicare Part D benefit will probably be greater than the effort required to qualify for the employer subsidy or to drop drug coverage outright.

The Panel believes that significant numbers of employers are likely to choose the second or third approach—i.e., offering wrap-around coverage or becoming a Part D plan. Employer surveys and discussions with employer organizations should provide an initial basis for estimating how many employers will select each of the four approaches. For example, the Kaiser/Hewitt 2004 Survey on Retiree Health Benefits reported that 58 percent of employers would accept the 28-percent tax-free subsidy, 17 percent would offer plans that wrapped-around Medicare Part D, and 8 percent would discontinue drug coverage. OACT should consider this evolving information in estimating the effect of employer choice for the 2005 and 2006 reports.

OACT assumed that employer choices would not reflect adverse selection. The Panel believes that many employers will consider the cost effect of their choice as part of their decision regarding how to accommodate Medicare Part D. This consideration will lead to some degree of adverse selection, since employers who see greater savings through one approach are more likely to select that approach.

For instance, OACT estimated that the average cost of providing Part D coverage for all beneficiaries currently covered by employer plans would be $1,305 per year. OACT applied that average $1,305 cost to the assumed number of beneficiaries who would be shifted to Part D as a result of an employer dropping prescription drug coverage for retirees. In fact, it is more likely that an employer with a higher cost group will choose to drop prescription drug coverage. As a result, the average cost to Medicare for those beneficiaries losing employer coverage will probably be greater than $1,305.

Recommendation II-4: The Panel recommends that OACT and the Trustees assume that the proportion of Medicare beneficiaries with employer-provided prescription drug coverage decline over time.

OACT also assumed that the percentage of beneficiaries with employer coverage will remain constant over time. The Panel, however, believes that there are several compelling reasons why the proportion of Medicare beneficiaries with prescription drug coverage may decline over time. First, some employers have already eliminated post-retirement medical coverage for their retirees. Second, other employers are using an employee's date of hire or length of service to restrict post-retirement medical coverage; that is, workers hired after a certain date or workers with shorter lengths of service may no longer be eligible for coverage after they retire. Third, new employers appear to be less likely to offer post-retirement medical coverage than older, more established firms. As time passes, the net result of these trends will likely be to reduce the proportion of Medicare beneficiaries with employer-provided

prescription drug coverage. For that reason, the Panel recommends that OACT and the Trustees reduce the proportion of Medicare beneficiaries with employer-provided prescription drug coverage over time when projecting Part D costs.

Using Additional Data Sources

Recommendation II-5: The Panel recommends that OACT and the Trustees use additional data sources to inform their Medicare Part D drug utilization and cost projections.

The Panel recognizes that OACT and the Trustees faced an enormous challenge when projecting Part D drug utilization and cost. A considerable part of this challenge was that for the 2004 Trustees Report, OACT and the Trustees needed to project utilization and costs before the Part D program had even been implemented. While the Panel concludes that OACT and the Trustees' methods and assumptions are generally reasonable, many, if not most, of those methods and assumptions are subject to considerable uncertainty.

Ultimately, much of the uncertainty surrounding OACT and the Trustees' Part D projections will be mitigated once the Part D program is implemented and data on beneficiary participation and utilization, on participation in the low-income subsidy program, and on employer responses become known (Recommendation II-3). As discussed below, it will be several years before most types of Part D data are available, and even longer before several such years of data will exist. During the next few years and perhaps beyond, the Panel recommends that OACT and the Trustees use and analyze other data sources to inform their Medicare Part D drug utilization and cost projections.

One such data source is the prescription drug utilization and cost data from the FEHBP National Blue Cross/Blue Shield program. The FEHBP data set has a number of advantages relative to the MCBS, including:

- Its prescription drug utilization data are based on beneficiary claims, not beneficiaries' self-reported use;
- The data are more recent than the 1998 or 2001 MCBS; and
- It represents a much larger sample of Medicare beneficiaries (approximately 1 million) than does the MCBS (13,000).

At the same time, the Panel recognizes that the FEHBP data set also has a number of serious limitations relative to the MCBS, including:

- The sample is not representative—This is a sample of Federal retirees and their dependents, who are:
  - Not geographically diverse—Federal retirees and their dependents are more likely to be located near where they once worked, typically in a relatively small set of urban locations;
  - Younger—Compared to all Medicare beneficiaries, those in the FEHBP data set may be somewhat younger;
  - Federal retirees have higher incomes than the average Medicare beneficiary; and

  - Some key groups are not represented at all; the FEHBP data set includes none of the uninsured and almost no Medicaid beneficiaries.
- There is some reason to suspect that FEHBP National Blue Cross/Blue Shield retirees are heavier users of all medical services, including prescription drugs.

To some degree, the choice between the MCBS versus the FEHBP data set is a choice between a small, but nationally representative sample for which prescription drug use is under-reported, versus a much larger, but biased sample for which prescription drug use is much more accurately measured but is likely higher than average.

The Panel believes that OACT could use the FEHBP data to inform its Medicare per beneficiary Part D drug utilization and cost projections. For example:

- OACT could compare its Medicare prescription drug estimates from the 1998 MCBS (for those beneficiaries with employer health insurance coverage trended forward to a common year) with actual data from the FEHBP. While one would expect the FEHBP estimates to be higher than the corresponding MCBS estimates, it is possible that the FEHBP estimates were lower. If so, OACT may then find it prudent to reconsider and revise its prescription drug pricing, underreporting, and trending methodologies accordingly.
- OACT could also compare the FEHBP prescription drug cost growth estimates through time with the corresponding NHE estimates and examine whether the trends for the elderly and non-elderly differ. The results presented in Table 5 above indicate that the average annual growth rates from 1999 to 2003 differed for FEHBP (11.9 percent) and the NHE (15.2 percent) but that much of that difference was likely due to FEHBP BCBS cost containment initiatives in 2000 and 2002. Further, average annual growth rates from 1999 to 2003 for FEHBP were similar for all enrollees (11.9 percent) and for those who were Medicare eligibles age 65 and above (11.2 percent).

Recommendation II-6: The Panel recommends that OACT and the Trustees use plan premium, beneficiary enrollment, administrative, claims, and other Part D data as soon as possible to revise their Medicare Part D beneficiary participation and expenditure projections and that OACT be provided with the resources necessary to assure full and timely access to these Part D data as the data become available.

Given the potentially serious limitations and uncertainty surrounding the MCBS, the Panel strongly recommends that OACT and the Trustees begin to use Part D data as soon as possible to improve, revise, and ultimately replace their projection methodology based on the MCBS. The Panel acknowledges that it will be several years before these data become available, and its current understanding is that:

- PDP and MA plans must submit their premium bids to OACT for review by mid-2005, when these premiums will then be available for OACT and the Trustees to revise their projections in the 2006 Trustees Report;

- Similarly, an early partial count of beneficiaries enrolling in the various PDP and MA drug plans for the first year of the program will be available in time for use in the 2006 Trustees Report;[23] and
- Claims data for part of calendar year 2006 (perhaps as much as 11 months of data) will be available for use in the 2007 Trustees Report.

The Panel also recognizes that the initial Part D premium and claims data may be problematic. Plans may not accurately project their prescription drug and other costs the first time, and it may take a while before Part D enrollment and claims experience stabilizes. Presumably, the accuracy of the plan's premium calculations and bids and the stability of the Part D claims data will both improve over time, further improving the accuracy of OACT's projections.

It is the Panel's understanding that OACT and the Trustees now use NHE projections only to forecast Part D costs. For the HI (Part A) and SMI Part B projections, OACT and the Trustees rely on Medicare claims, utilization, and administrative data. The Panel believes that using Medicare data as opposed to external data or projections (such as the NHE) to estimate Medicare program costs will produce more accurate projections. For this reason, the Panel recommends that OACT and the Trustees begin using Medicare Part D data as soon as possible to estimate prescription drug cost growth trends and Part D costs and expenditures.

The Panel also recognizes that it may be some time before sufficient Part D data are available to make reliable cost growth forecasts. As more and more Part D data become available, however, OACT could well use these data to validate its NHE prescription drug projections, or even to integrate Part D data into the NHE prescription drug model, as interim steps before Part D data alone serve as the primary data source for prescription drug cost growth projections. In addition, the Panel also recognizes that many of the methodological problems that OACT now faces in making its NHE prescription drug projections will persist even after many years of Part D data are available. For example, the impact of Direct to Consumer (DTC) advertising, new drug introductions, patent expirations, new research development, and other factors still must be accounted for, and these factors will still need to be forecast into the future.

The MMA assigns OACT a number of new responsibilities related to the Part D program. In addition to being responsible for generating the projections of Part D costs and benefits that are included in the Trustees Report, OACT must:

- Review and approve prescription drug premium and cost calculations submitted by PDP and MA plans;
- Calculate beneficiary Part D premium payments; and
- Estimate Medicare beneficiary per capita prescription drug costs. The growth in these costs will be used to index many key program parameters (such as the beneficiary deductible, beneficiary co-payments per drug, etc.).

[23] The first open enrollment period for the Medicare Part D program will be from November 15, 2005 to May 15, 2006. This means that approximately 3 months of Part D enrollment data will be available for the 2006 Trustees Report.

To meet its new responsibilities, as well as to address this Panel's recommendations, OACT will require access to Part D premium, administrative, and claims data as these data are submitted to CMS. From discussions with OACT staff members during its public meetings, the Panel understands that OACT and the rest of CMS have been in regular communication regarding plans for the Part D data, including the form in which these data will be submitted, what analytic and other processed data files will be created from raw data submissions, and the degree of access OACT will have to the data. For example, OACT staff members stated that current plans call for OACT to be able to access 100 percent of all Part D claims. Further, OACT indicated that it is satisfied with current plans and is comfortable with the amount, format, and timeliness of the data files it will receive.

While the Panel does not have specific technical or analytic recommendations to make regarding the Part D data OACT will receive, it does wish to emphasize the importance of this process. Practical experience repeatedly indicates how difficult it can be to create and implement new data collection and reporting systems, especially for a completely new program such as Medicare Part D. It is very important that Medicare program data that are essential for program management are available in a timely fashion. The PDP and MA plans, employers, and other organizations submitting data to CMS, as well as CMS itself, will face learning curves as these outside parties determine how best to submit required data and as CMS decides how best to receive, audit, clean, and process the data. Ensuring that OACT receives the data it needs will be one more responsibility that CMS must bear, but the Panel wants to stress once again how critical it will be to provide OACT with full and timely Part D data access. Finally, the Panel was pleased to hear that OACT and CMS have been working together so closely on these issues, given that it will probably be easier and less costly to design and implement OACT's "pipeline" to the Part D data when the new Part D data system is being created than to "retro-fit" such a pipeline at some future date.

Chapter III: Other Issues

The Panel is making a number of recommendations on other issues in addition to those it made for the long-range and Part D program projections. These other issues include:

- Whether Part D availability should be expected to affect Part A or Part B utilization and costs;
- How material and information on long-run effects and uncertainty are presented in the Trustees Report;
- The treatment and representation of uncertainty;
- The use of stochastic modeling to project Medicare expenditures;
- Participation rates in the new MA program; and
- Recommendations for when the next panel should be convened and what issues it might consider.

The Impact of the Part D Program on Part A and Part B Costs

Recommendation III-1: The Panel recommends maintaining OACT and the Trustees' current assumption that implementation of the Part D prescription drug benefit will not affect utilization or costs for Part A or Part B.

OACT projects that the improved insurance coverage provided through the Part D program will "induce" Medicare beneficiaries to incur 12 percent more in prescription drug costs than they would have in the absence of the Part D program. OACT further assumes that Part A and Part B utilization and cost will not change in response.

The Panel does not recommend changing the assumption that implementing the Part D program will not affect Part A or Part B utilization or costs. Depending on the circumstances, increased prescription drug use could either decrease or increase the use of other health services. The use of certain prescription drugs may substitute for the use of more intensive and invasive therapies and reduce medical care costs. Overall improvements in health or public health may be associated with the use of certain prescription drugs that reduce Part A and Part B costs. Substantial savings could result for specific disease sub-populations that may accrue through time.

On the other hand, it is possible that Medicare beneficiaries who lacked prescription drug coverage and refrained from seeing the doctor (to avoid the costs of any drugs that might be prescribed) will now increase their number of office visits. This result could increase Part B spending and potentially Part A spending as well, if physicians refer these patients to additional care.

Short- and long-run effects could differ. For example, suppose Medicare beneficiaries receive prescription medications (e.g., for cardiovascular disease) that allow these individuals to avoid more invasive procedures (such as angioplasties, stents, bypass surgery, etc.). It is possible that these prescription drugs do not prevent but merely delay the use of more expensive treatment options. If so, total treatment costs could increase. One further possibility is that by extending a patient's life, prescription drugs could reduce treatment costs for some conditions but increase costs for other illnesses that patients develop even later in life. The ACE inhibitors and ARBs for treating diabetes

and statins for preventing heart disease could reduce mortality and increase the number of beneficiaries over time.

Empirical evidence regarding spillover effects between Part D and other areas of expenditure is limited and mixed. While some studies demonstrate an offset by examining specific services and populations (Soumerai et al., 1991; Tamblyn et al., 2001), a number of studies find no association between increased drug coverage and utilization of non-drug services (Motheral and Fairman, 2001; Fairman et al., 2003; Johnson et al., 1997; Schneeweiss et al., 2002; Pilote et al., 2002).

Despite the existence of empirical evidence supporting both sides of this debate—that is, whether prescription drug use increases or decreases other care costs—the Panel could not find conclusive evidence favoring either position. Given the uncertainty regarding not only the scale but also the direction of any such effects, the Panel agrees with OACT's decision to assume that Part D prescription drug use will not affect Part A or Part B utilization or cost.

Recommendation III-2: The Panel recommends that OACT conduct or commission research of the effect of changes in prescription drug utilization on Part A and Part B utilization and costs.

The implementation of the new Part D prescription drug program provides a natural experiment for the effects of prescription drug use on Part A and Part B utilization and costs. For example, a "pre-post" research design comparing Part A and Part B utilization and costs before and after the Part D program is implemented might allow researchers to determine whether increased prescription drug use by Medicare beneficiaries (as a result of the Part D program) increases or decreases Part A and Part B utilization and costs. While any such study might face problematic methodological issues (for example, current law changes may also alter Part A and Part B utilization and costs, and it could be challenging to separate the effects of current law from those of the Part D program), the Panel still recommends that OACT and HHS pursue research in this area when Part D utilization data become available. This research could be conducted either within HHS and OACT or through the support of extramural research studies. As noted previously, impacts could differ in the short run versus the long run; such research would, initially, help to answer the question of short-run impacts only.

Presentation

Recommendation III-3: The Panel recommends that the Overview of the Trustees Report be expanded to include more information on the long-run effects on the total Medicare program and more information surrounding the uncertainty of the Medicare projections.

The Overview is the part of the Trustees Report that is most widely read by the public and policy makers. Consequently, it should provide more information that clearly shows the long-term cost and impact of the total Medicare program. This type of presentation has become much more important with the addition of Part D to Medicare.

The current Overview shows the long-term projection of total program expenditures and is based on the intermediate assumptions (Figure 1.E1). The Panel recommends that the Overview also include the low and high cost projections to show the range of uncertainty in the program. Low and high cost

projections of Parts B and D would therefore be required for the long range, as well as a detailed presentation of these estimates in the Part B and Part D sections of the report.

Figure II.C.1 of the 2004 Trustees Report compares average monthly SMI benefits, premiums, and cost sharing to the average monthly Social Security benefit from 1970 to 2070 and beyond. The Panel believes that this figure is especially useful in conveying the future financial burdens on Medicare beneficiaries. Similar information used to be shown in the Trustees Report in tabular form, but it was eliminated to avoid confusion due to the introduction of Part D. Specifically, while Part D may be expected to greatly reduce Medicare beneficiaries' total out-of-pocket medical expenses, their SMI out-of-pocket costs and premiums are projected to increase significantly, as beneficiaries begin paying Part D premiums and incur deductibles, coinsurance, and co-payment expenses. To avoid the likely confusion from this issue, the Trustees decided to convert the prior table into a chart that could also show the corresponding increase in Medicare benefits. The Overview section of the Trustees Report includes a paragraph describing the impact of sustained rapid growth in SMI expenditures on beneficiaries, with out-of-pocket costs representing an increasing share of their incomes.

The Panel believes that it is useful to report more information related to the financial burdens faced by Medicare beneficiaries and recommends that OACT and the Trustees include two new figures in the Overview and body of the Trustees Report. These two figures would differ from Figure II.C.1 in the following ways:

- Both figures would include not only SMI premiums and total SMI out-of-pocket expenses but also HI out-of-pocket expenses and total Medicare (HI and SMI) out-of-pocket expenses;
- The first figure would compare, for each year, average SMI premiums, total SMI out-of-pocket expenses, total HI out-of-pocket expenses, and total Medicare (HI and SMI) out-of-pocket expenses with average total family income (e.g., Social Security, private pension payments, asset income, earnings, rent, other public assistance, other income, etc.); and
- The second figure would indicate what fraction of Medicare beneficiaries had or are expected to have total Medicare (HI and SMI) out-of-pocket expenses that exceeded 20 or 40 percent of their total family income each year.

The Panel believes that it is important to present information on out-of-pocket costs, not only for SMI but also for total Medicare. In addition, while the Panel recognizes that the comparison to average levels of Social Security benefits is intended to provide a relative measure of out-of-pocket costs, and not to imply that beneficiaries have no other sources of income, the Panel considers this approach subject to potential misinterpretation.

The Panel also recommends that the Trustees consider alternative methods of presenting the results. While graphs provide a quick overview of the program, many readers also benefit from, or even prefer, tables. The Panel believes that figures should be accompanied by tables wherever practical (e.g., I.E1 and I.E2).

With the notable exception of the stochastic projections in the supplementary assessment of uncertainty in Part B cost projections in Appendix D, the Trustees Report makes little use of graphical techniques, such as influence or phase diagrams, to represent alternative projections and uncertainty. Given the complexity of comparing alternative sets of projections, the Panel recommends that the

Trustees Report explore the use of representing uncertainty through graphical techniques. Such a presentation may improve the readers' understanding of the extent of the uncertainty underlying the projections and how differing assumptions can affect those projections.

The Medicare Modernization Act requires the Trustees to include additional information in their annual report highlighting the difference between total Medicare outlays and dedicated funding sources.[24] In addition, the Trustees Report is to show a comparison of projected Medicare cost growth with other growth trends such as the GDP, private health insurance costs, and overall national health expenditures. This requirement is effective for the 2005 annual report but was implemented in large part beginning with the 2004 Trustees Report. For 2005, OACT is planning to add new information on private health insurance and national health expenditure projections. The Panel concurs with these additions to the report.

Uncertainty

Recommendation III-4: To better reflect uncertainty, the Panel recommends that the low and high cost alternatives incorporate the effects of reasonable alternative assumptions of key parameters relative to the intermediate assumptions.

In addition to the uncertainty associated with specific methods and assumptions used by OACT and the Trustees to project Part D expenditures, the Panel considered the more general topic of uncertainty and its representation in the Trustees Report. At present, OACT and the Trustees prepare three sets of cost estimates for the Medicare program:

- The intermediate alternative represents OACT and the Trustees' estimates of cost under their best and most likely assumptions regarding factors contributing to program expenditures;
- The low cost alternative projects costs under a plausible set of alternative assumptions that would slow the growth of program expenditures; and
- The high cost alternative projects costs using a set of alternative assumptions leading to more rapid expenditure growth.

Relative to the intermediate alternative, the low and high cost alternatives assume that the factors contributing to Medicare expenditures will all either lower or increase costs, respectively. In addition, the differences in assumptions between the intermediate and low cost or intermediate and high cost alternatives tend to be symmetric. For example, the intermediate alternative assumes that the Consumer Price Index (CPI) will increase 2.8 percent per year in 2025, compared to 1.8 percent per year for the low cost alternative (-1.0 percentage point) and 3.8 percent per year for the high cost alternative (+1.0 percentage point). With one exception—administrative costs for the Part D program—each individual assumption is symmetric for the low and high cost alternatives relative to the intermediate alternative.

[24] Although this difference is characterized in the law as "general revenue funding," it is actually comprised of: (1) the general revenue financing that is authorized under current law; and (2) any HI trust fund deficits (for which there is no provision under current law once HI assets have been exhausted).

While the Panel understands that this symmetry is largely a deliberate choice, it encourages OACT and the Trustees to consider other possibilities for specifying the low and high cost alternatives. In the Panel's view, OACT and the Trustees should consider carefully whether symmetric assumptions for each parameter are the most useful or realistic choice for creating plausible low and high cost alternatives. If they are not, OACT and the Trustees should assume that individual parameter assumptions are not symmetric.

Presenting Departures from Current Law

Recommendation III-5: If the Trustees believe that continuation of current law is unlikely, the Panel recommends that OACT and the Trustees present projections of changes to current law as alternative scenarios to supplement their projections.

In special and extraordinary circumstances, the continuation of current law may be extremely unlikely. The Panel notes that the 2004 Trustees Report included the following:

> *The projected growth in Part B benefits slows dramatically during the next 10 years. This is because the physician fee schedule payment updates are determined based on the sustainable growth rate system (SGR). The SGR requires that future physician payment increases be adjusted for past actual physician spending relative to a target spending level. The cumulative implications of past physician spending being over the target levels, exacerbated by the physician updates legislated in the Medicare Modernization Act (MMA), yield projected physician updates of about –5 percent for 7 years, beginning in 2006. Multiple years of significant reductions in physician payments per service are very unlikely to occur before legislative changes intervene, but these payment reductions are required under the current law SGR system and are included in the physician fee schedule projections. Consequently, the current law Part B projections shown in this report are very likely to understate actual future expenditures in 2006 and later. (Page 88)*

> *The projected physician fee schedule expenditures should be considered unrealistically low due to the current law structure of physician payment updates under the sustainable growth rate system (SGR). The SGR requires that future physician payment increases be adjusted for past actual physician spending relative to a target spending level. Consequently, the system would have led to large negative reductions in physician fee schedule rates for 2004 and 2005. To avoid these reductions, the Medicare Modernization Act (MMA) established minimum updates of 1.5 percent in 2004 and 2005. However, the target spending level was not adjusted, and actual physician expenditures, therefore, are expected to continue to exceed the SGR targets. This situation causes projected physician spending updates to be about -5 percent for 7 consecutive years, beginning in 2006. The result is a cumulative reduction in the payment rates for physician services of more than 31 percent from 2005 to 2012. In contrast, the MEI [Medicare Economic Index] is expected to increase by 19 percent over the same time frame. Multiple years of significant reductions in physician payments per service are very unlikely to occur before legislative changes intervene, but these payment reductions are required under the current law SGR system and are included in the physician fee schedule projections (Page 127)*

The Panel recommends that the Trustees continue to model current law and report the resulting projections in the Trustees Report. In extraordinary circumstances such as in the SGR example cited above, the Panel believes that it is reasonable for the Trustees to simulate departures from such unlikely current law provisions and to report the results in the Trustees Report, perhaps as special alternative scenarios.

Stochastic Modeling

Recommendation III-6: The Panel supports OACT's continued development of stochastic models to provide alternative estimates of uncertainty but advises that their use be extended cautiously, especially for the Part D program.

Page 168 of the 2004 Trustees Report states:

> *For health care cost projections, the most critical assumption is generally the rate of increase in average per beneficiary medical costs. In the past, there have been wide variations in such growth rates for Part B. The statistical methods employed here [in Appendix D of the report] (also referred to as "stochastic" projection techniques) measure past variation in per beneficiary growth rates relative to the average and assume that similar variation will occur in the future, relative to the intermediate growth rate assumptions for the short-range projection period.*

Thus, OACT and the Trustees are already using stochastic modeling techniques, at least to provide another set of short-range projections for the Part B program. Stochastic modeling is best thought of as an alternative way of representing uncertainty compared to the current use of low cost and high cost alternatives. Instead of making fixed assumptions about the values of each parameter (the approach now used by the low and high cost alternatives), stochastic modeling assumes a distribution or level of variation for each parameter based on historical experience. The resulting projections are a continuum of different cost estimates, where each estimate has a differing probability of occurring. Stochastic model results are often reported using confidence intervals, such as what range of cost projection estimates has a 95-percent chance of occurring given that the underlying assumptions regarding the distribution of key model parameters are valid.

The current low and high cost alternatives are meant to be plausible cases of what might happen under either optimistic or pessimistic scenarios, but OACT and the Trustees make no attempt to indicate the likelihood that either the low or high cost alternatives could happen. In contrast, a stochastic model can be used to estimate what chance there is that Medicare Part B costs will exceed some lower or upper bound (e.g., there is no more than a 5-percent chance that expenditures could be more than X dollars or less than Y dollars). Similarly, the probability of Part A trust fund exhaustion within the next 10 years could be estimated. In addition, stochastic model results are not constrained to be symmetric. For instance, the chance that Part B costs are 10 percent higher than the intermediate alternative projection may be greater or less than the chance that such expenditures are 10 percent lower than the intermediate alternative projection.

OACT staff members reported to the Panel their continued interest in stochastic modeling and their expectation that, eventually, stochastic modeling will likely replace the current use of the low and

high cost alternatives to represent uncertainty. The Panel supports OACT's continued development of stochastic modeling approaches with the following caveats:

- Stochastic modeling may not be OACT's highest current priority—OACT staff members indicated that presently only a limited number of staff are developing stochastic models. The Panel notes that developing models for all Medicare—that is, for Parts A, B, and D and for short-, intermediate-, and long-range estimates—may take considerable resources. The Panel cautions that stochastic model development should not "crowd out" other OACT priorities, especially concerning the development of new and better estimates of Part D expenditures as Part D and other data become available over the next few years (see Chapter II above);
- The results of stochastic models must be interpreted carefully—The Panel agrees with many of the caveats noted in the 2004 Trustees Report, including that there is no guarantee that historical patterns of variation in key model parameters will persist in the future, and that current Part B stochastic model projections do not account for important sources of cost variation, such as longer life expectancies or net immigration increasing the number of Part B beneficiaries; and
- Extending stochastic modeling to other parts of Medicare may be problematic—In particular, the Panel believes that there will not be enough data available for some time to develop plausible stochastic models for Part D expenditures.

Medicare Advantage (MA) Plan Participation Rates

Recommendation III-7: While the Panel agrees that OACT and the Trustees' assumption regarding the ultimate rate of beneficiary participation in the Medicare Advantage program is in a reasonable range, the Panel recommends that the period to reach the ultimate beneficiary participation rate be extended and that the beneficiary participation rate be assumed to increase in even increments from its current level to the ultimate level.

During its public meetings, the Panel listened to presentations from OACT staff members on the new MA program.[25] In brief, the MA program replaces the former Medicare+Choice (M+C) program that provided Medicare beneficiaries with alternative coverage to traditional Medicare fee-for-service (FFS). The Medicare+Choice program primarily offered benefits through local Health Maintenance Organizations (HMOs) and Private Fee-for-Service (PFFS) plans. The MA program also allows Medicare beneficiaries to select Preferred Provider Organization (PPO) plans serving broad geographic regions and provides more incentives for both local and regional plans to participate.

Under the MA program, HMO and PFFS plans will market in local areas while PPO plans will operate in either local areas or regions. Each regional plan must:

- Accept all Medicare beneficiaries in the region who wish to enroll;
- Provide full Part A and Part B coverage; and
- Provide prescription drug coverage to those plan enrollees electing Part D.

[25] CBO staff members also presented information on the MA program to the Panel.

CMS recently announced that there will be 26 MA regions and 34 PDP regions. There are no limits on the number of plans allowed to participate in each region. Each plan must submit a bid to CMS detailing its expected Part A, Part B, and Part D premiums and costs, including its (prospective) expected administrative costs and profits. CMS will then negotiate with the plans, if appropriate. In addition, CMS will calculate a benchmark plan cost amount in each region for combined Part A and Part B coverage.

Regional plans will begin participating in the MA program in 2006. Following are some of the incentives to encourage their participation:

- Symmetric risk corridor payments in 2006 and 2007; and
- Stabilization payments that provide plans with entry bonuses, bonuses for being a national plan (i.e., a plan enrolling Medicare beneficiaries in all regions), and retention bonuses from 2007 to 2013. The stabilization fund is initially funded with $10 billion and will also receive payments from Medicare based on the extent to which regional plan costs are below the corresponding regional benchmarks.

For several reasons, OACT and the Trustees assume that the participation rate in the MA program will be much higher (reaching 32 percent by 2010) than in the M+C program (13 percent in November 2004):

- Higher payment rates—The MMA significantly increased payment levels for MA plans compared to the prior M+C levels, which should encourage more plans to participate;
- PPO option—Beneficiaries reluctant to enroll in HMOs may be willing to enroll in a PPO plan, which requires less utilization review and management and offers greater freedom to select providers;
- Lower costs or supplemental benefits—To the extent that MA plans will compete for Medicare beneficiaries, either through offering supplemental benefits or reducing beneficiary Part B or Part D premiums, such inducements could increase enrollment; and
- Benefit coordination—Relative to Medigap or other plans offering only Medicare Part D benefits, MA plans will offer not only Part D benefits (for those electing them) but also Part A and Part B benefits as well. MA plans thus will be able to coordinate benefits for Parts A, B, and D, and this benefit coordination may confer some relative advantage compared to PDP or other "Part D Only" plans. In addition, regional MA plans might use this advantage to share some of the benefits with their enrollees through additional supplemental benefits or reduced premiums.

Based on their consideration of these factors, OACT and the Trustees assume that 32 percent of Medicare beneficiaries will enroll in the MA program by 2010. The Panel agrees that this ultimate beneficiary participation rate is within a reasonable range, but believes that it will take somewhat longer—perhaps 10 years after implementation (i.e., by 2016)—for beneficiary participation rates to grow this high. In part, the Panel bases this belief on the historical experience of Medicare HMO enrollment (see Table 10).

Table 10
Medicare Managed Care Enrollment: Selected Years

Month and Year	Medicare Managed Care as a Share of Total Medicare Enrollment
December 1985	4.1%
December 1990	5.9
December 1995	10.1
December 1999	17.9
December 2000	17.2
December 2001	15.1
December 2002	13.6
December 2003	13.0
November 2004	13.1

Source: OACT communication to the 2004 Panel, November 2004.

The historical experience presented in Table 10 indicates that Medicare managed care enrollment has changed very gradually. For example, it took 5 years (from 1985 to 1990) for enrollment to grow from 4.1 to 5.9 percent of all Medicare enrollees. During the next 5 years (1990 to 1995), enrollment grew only 4 additional percentage points. Data from the last 5 years (1999 to 2004) further indicate that the percentage of beneficiaries enrolling in Medicare managed care varied by no more than 2.1 percentage points in any one year.[26]

Because of this historical experience, the Panel believes that it will take longer than 4 years (from 2006 to 2010) for Medicare managed care enrollment to increase from 13 percent (2004) to 32 percent (2010). The Panel therefore recommends that OACT and the Trustees assume that beneficiary participation will not reach 32 percent for at least 10 years. The Panel also recommends that OACT and the Trustees assume that participation rates will increase in even yearly increments. For example, if OACT and the Trustees assume that it will take 10 years for beneficiary participation to increase from 13 to 32 percent, then the Panel would recommend that they further assume that participation will increase evenly by a little less than 2 percentage points per year.

Future Panel

Recommendation III-8: The Panel recommends that the Secretary of Health and Human Services (HHS) convene the next advisory panel no later than 4 years from now (i.e., by 2008) and that this next panel conduct a broader review of all aspects of the HI and SMI programs.

One of the greatest challenges that OACT, the Trustees, and this Panel faced was the creation of the completely new Medicare Part D program. It may be best to view OACT and the Trustees' Part D assumptions, methodologies, and projections, and this Panel's review and recommendations, as preliminary and subject to appropriate review and revision once more is learned. Because of this

[26] While not presented here, the largest 1-year change in beneficiary participation occurred from 1996 to 1997, when enrollment increased from 12.6 to 15.3 percent, or 2.7 percentage points.

uncertainty, the role of the next advisory panel will be extremely critical. Much more information will be available within the next few years, including, but not limited to, the following:

- Beneficiary enrollment in the Part D program;
- Availability and design of Part D plans;
- Beneficiary participation in the low-income subsidy programs for those eligible;
- Employer decisions regarding whether to become PDPs, continue to offer their plans and receive subsidy payments, create new wrap-around plans, or drop their plans;
- The extent of fallback plans;
- The beneficiaries' use of prescription drugs and their associated costs;
- Whether the Part D program as a whole experiences neutral or adverse risk selection;
- Whether plans will be able to secure significant drug cost savings through discounts, rebates, generic substitution, or other benefit management strategies;
- Whether the Part D program will affect drug prices, especially for "blockbuster" drugs and new drug launches; and
- Whether Part D utilization will have any effect on Part A or Part B utilization and cost.

All of these will be important issues for the next panel to consider. That future panel may also want to review many of the same issues considered by the 2004 Panel, including the long-range growth rate of Medicare costs, the treatment and presentation of uncertainty, and the appropriate treatment of infinite horizon projections.

Following are several other issues that the 2004 Panel was able to consider only very briefly, or not at all, and that may also be appropriate topics for a future panel:

- A comprehensive review of the assumptions that OACT uses to make its short- and intermediate-range forecasts of HI and SMI cost growth;
- A more comprehensive review of the new MA program; and
- Use of the same actuarial projections of economic and demographic factors for the Old-Age and Survivors Insurance (OASI), Disability Insurance (DI), HI, and SMI trust fund projections.

Appendix A: Charter: The Technical Review Panel of the Medicare Trustees Report

PURPOSE

The Board of Trustees of the Medicare Trust Funds (the Hospital Insurance (HI) and Supplementary Medical Insurance (SMI) Trust Funds) report annually on the financial condition of the trust funds. The report describes the trust funds' current and projected financial condition, within the next 10 years (the "short term") and indefinitely into the future (the "long term"). The Medicare Board of Trustees has requested the Secretary of Health and Human Services (who is one of the Trustees) to establish a panel of technical experts to review the assumptions and methods underlying the HI and SMI annual report.

AUTHORITY

42 USC 217a; Section 222 of the Public Health Services Act, as amended. The panel is governed by provisions of Public Law 92-463, as amended (5 USC Appendix 2), which sets forth standards for the formation and use of advisory committees.

FUNCTION

The Technical Review Panel on the Medicare Trustees Report shall review the assumptions and methods underlying the Hospital Insurance and Supplementary Medical Insurance Trust Fund annual report. The panel's review shall include a review of the Trustees' current assumptions regarding the long-term rate of growth in medical expenditures, and may include other issues that panelists identify.

STRUCTURE

The panel shall consist of up to seven members selected by the Secretary, or designee, who are experts in the fields of economics and actuarial science and other areas who have the technical knowledge required to fulfill the Panel's statutory mandate. The Secretary, or his designee, shall appoint one of the members to serve as the chair. Members shall be invited to serve for the duration of the panel.

Management and support services shall be provided by the Office of the Assistant Secretary for Planning and Evaluation and the Office of the Actuary in the Centers for Medicare & Medicaid Services (CMS).

MEETINGS

The Panel shall meet approximately six times, at the call of the chair with the advance approval of a Government Official, who shall also approve the agenda. A Government Official shall be present at all meetings.

Meetings shall be open to the public except as determined otherwise by the Secretary or other official to whom the authority has been delegated. Notice of all meetings shall be given to the public.

Meetings shall be conducted, and records of the proceedings kept, as required by applicable laws and Departmental regulations.

A quorum shall be one more than one-half of the authorized membership.

COMPENSATION

Members who are not full-time federal employees shall be paid at a rate not to exceed $250 for each day they are engaged in the performance of their duties as members of the Committee. Members, while so serving away from their homes or regular places of business, may be allowed travel expenses, including per diem in lieu of subsistence, in the same manner as such expenses are authorized by Section 5703, Title 5 USC, as amended, for employees serving intermittently.

ESTIMATED ANNUAL COSTS

Estimated annual costs for operating the panel, including compensation and travel expenses for members but excluding staff support, is $71,690. Estimate of annual person-years of staff support required is .5, at an estimated annual cost of $53,389.

REPORTS

The panel shall issue its findings in reports to the Secretary and the other Trustees, including a final report issued no later than the fall 2004 Trustees meeting.

In the event a portion of the meeting is closed to the public, a report shall be prepared which shall contain, at a minimum, a list of members and their business addresses, the Committee's function, dates and places of meetings, and a summary of committee activities and recommendations made during the fiscal year. A copy of the report shall be provided to the Department Committee Management Officer.

TERMINATION DATE

Unless renewed by appropriate action prior to its expiration, the Technical Review Panel on the Medicare Trustees Report will terminate two years from the date the charter is approved.

APPROVED:

Secretary

March 11, 2004

Appendix B: Prior Medicare and Social Security Technical Panels

Medicare Technical Panels

Review of Assumptions and Methods of the Medicare Trustees' Financial Projections (2000) Technical Review Panel on the Medicare Trustees Reports

Published December 2000

Available Online at: http://www.cms.hhs.gov/publications/technicalpanelreport/

Topics Addressed: Medicare assumptions (for example, utilization rates and medical price increases); projection methodology; long-range growth assumptions for HI and SMI; and use of stochastic forecasting techniques.

Report on Medicare Projections by the Health Technical Panel to the 1991 Advisory Council on Social Security

Published March 1991

Social Security Technical Panels

Technical Panel on Assumptions and Methods (2003): Report to the Social Security Advisory Board

Published October 2003

Available Online at: http://www.ssab.gov/NEW/documents/2003TechnicalPanelRept_000.pdf

Topics Addressed: Assumptions regarding key demographic factors; assumptions regarding key economic factors; the likely rate of labor force participation of older persons; projection methodology; and status of the recommendations of the 1999 Technical Panel.

Technical Panel on Assumptions and Methods (1999): Report to the Social Security Advisory Board

Published November 1999

Available Online at: http://www.ssab.gov/NEW/Publications/Financing/tech99.pdf

Topics Addressed: Key economic assumptions; assumptions regarding key demographic factors; expected growth in equity markets, projected return on equity investments, and effects of possible investments of Social Security funds on equity markets and the national economy; and review of current forecasting methods.

Report of the 1994-1996 Advisory Council on Social Security

Published January 1997

Available Online at: http://www.ssa.gov/history/reports/adcouncil/

Topics Addressed: Financing issues, including the long-range financial status of the OASDI program; and general Social Security program issues, such as the relative equity and adequacy provided for persons at various income levels, in various family situations, and of various age cohorts, taking into account such factors as the increased labor force participation of women, lower marriage rates, increased likelihood of divorce, and higher poverty rates of aged women.

Note: Prior Quadrennial Advisory Councils on Social Security and Medicare generally convened independent, expert panels to review OASDI and Medicare financial projections. These panels date back at least to the 1970s.

Sources

Additional documents and proceedings from the 2004 Technical Panel's proceedings may be found at http://aspe.hhs.gov/health/medpanel/.

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