



Congressional Budget Office

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Using Analytic Models and Communicating Their Findings

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CBO's Role

- Provide objective, nonpartisan, timely analyses to facilitate economic and budgetary decisions by the Congress
- Make no policy recommendations

Types of Projections by CBO

- Federal spending and revenues under current law
- Federal spending and revenues under current policy
- Effects on the federal budget of legislation under consideration
- Economic and budgetary effects of policy options

Time Horizons for Projections

- 10-year budget window for formal cost estimates (plus an indication of effects on the deficit in subsequent decades)
- Longer-term projections for some population-based programs: Social Security, health care programs

CBO Products in a Typical Year

- About 100 reports, studies, testimonies, substantive letters, and issue briefs
 - Shifting to shorter products, where feasible
- 500–600 formal cost estimates and related mandate estimates
- Many more informal cost estimates for Congressional staff

Topic Areas for Analyses and Cost Estimates

- Agriculture
- Climate and Environment
- Disaster Relief
- Education
- Employment and Labor Markets
- Energy and Natural Resources
- Finance
- Health Care
- Homeland Security
- Housing
- Immigration
- Infrastructure and Transportation
- National Security
- Poverty and Income Security
- Retirement
- Science and R&D
- Veterans

CBO's Use of Models

- Use existing evidence to make future projections
- Facilitate consistency and replication of methods for estimates over time
- Enable timely responses to requests for estimates
- Incorporate behavioral responses (if feasible)
 - Households
 - Businesses
 - Federal agencies
 - State, local, and foreign governments

Types of Models Used in CBO's Estimates and Analyses

- Cell-based models using spreadsheets
- Regression models
- Microsimulation models
 - Health Insurance Simulation Model (HISim)
 - CBO's Long-Term Model (CBOLT)
- Combinations of the above

Construction and Review of Models

Inputs

- Reviews of research literature
- Historical data from federal programs and states
- Original research using administrative records and survey data
- Analysis by the staff of the Joint Committee on Taxation
- Brainstorming
- Extensive internal review

External Consultations

- Research organizations
- Government agencies (federal, state, and local)
- Private-sector organizations and associations
- Subject matter experts (in academia, private sector, and government)
- CBO's Panels of Economic Advisers and Health Advisers

Considerations in Evaluating Evidence

- Generalizability of research findings to policy under consideration
- Potential biases in results
- Determining the middle of the distribution of possible outcomes
 - Using weighted average of point estimates
 - Handling statistically insignificant estimates
- Characterization of uncertainty
 - Frequently qualitative because of insufficient evidence
 - Plausible ranges based on known sources of uncertainty
 - Indication of the sensitivity of results to variations in those sources
 - Example: CBO's analysis of alternative scenarios regarding the likelihood of employers' offering health insurance under the Affordable Care Act.
See <http://www.cbo.gov/publication/43082>.

Dissemination of Modeling Methods

- Descriptions of underlying logic, including graphics and flowcharts
- Background papers describing modeling methods
 - CBO's Health Insurance Simulation Model: A Technical Description
<http://www.cbo.gov/publication/19224>
 - CBO's Long-Term Model: An Overview
<http://www.cbo.gov/publication/20807>
- Methodological presentations at professional meetings
 - The Patient Protection and Affordable Care Act's Effects on Employers' Decisions to Offer Health Insurance
<http://www.cbo.gov/publication/41643>

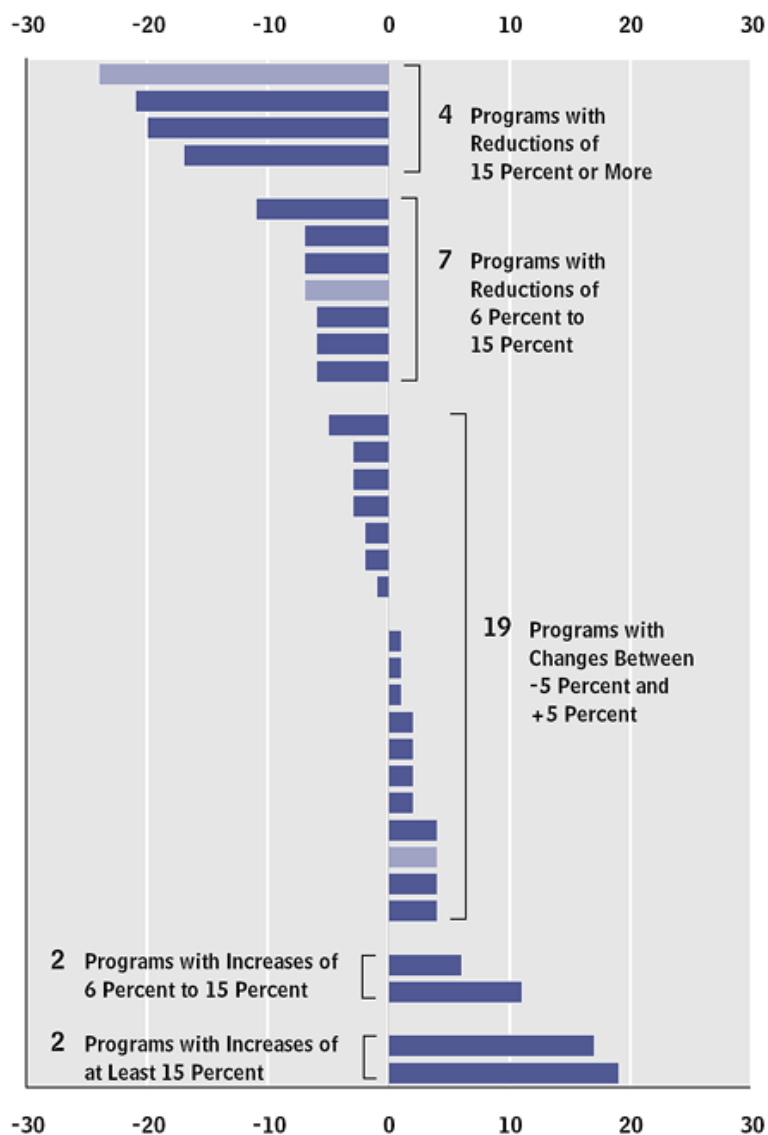
Dissemination of Findings

- Formal reports and cost estimates, with summaries of key findings
- Working papers
- Peer-reviewed articles
- Illustrative graphics, including infographics
- Web landing pages, highlighting findings and likely questions
- Director's blog, with updates on new CBO products
- Meetings with Congressional staff, federal agency staff, media representatives
- Presentations at professional meetings
- Invited presentations
- Combinations of the above

Recent Examples of Dissemination Strategies

Evaluation of the Medicare Care Coordination Demonstrations

Distribution of Outcomes

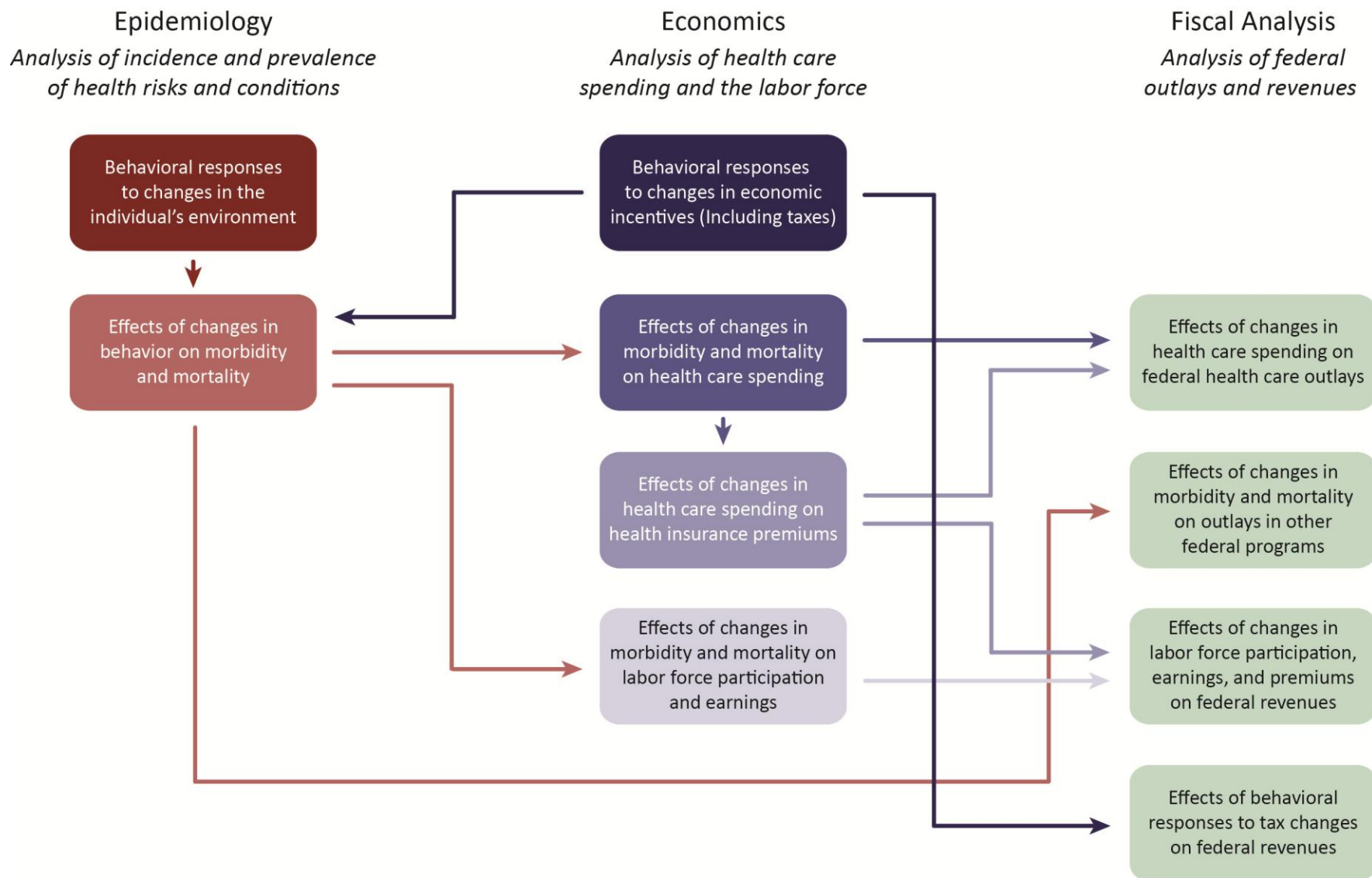


Effects of 34 disease management and care coordination programs on hospital admissions (percentage change)

Note: Lighter bars represent less precise estimates

Analyzing Prevention Policy Effects: The Interdisciplinary Challenge

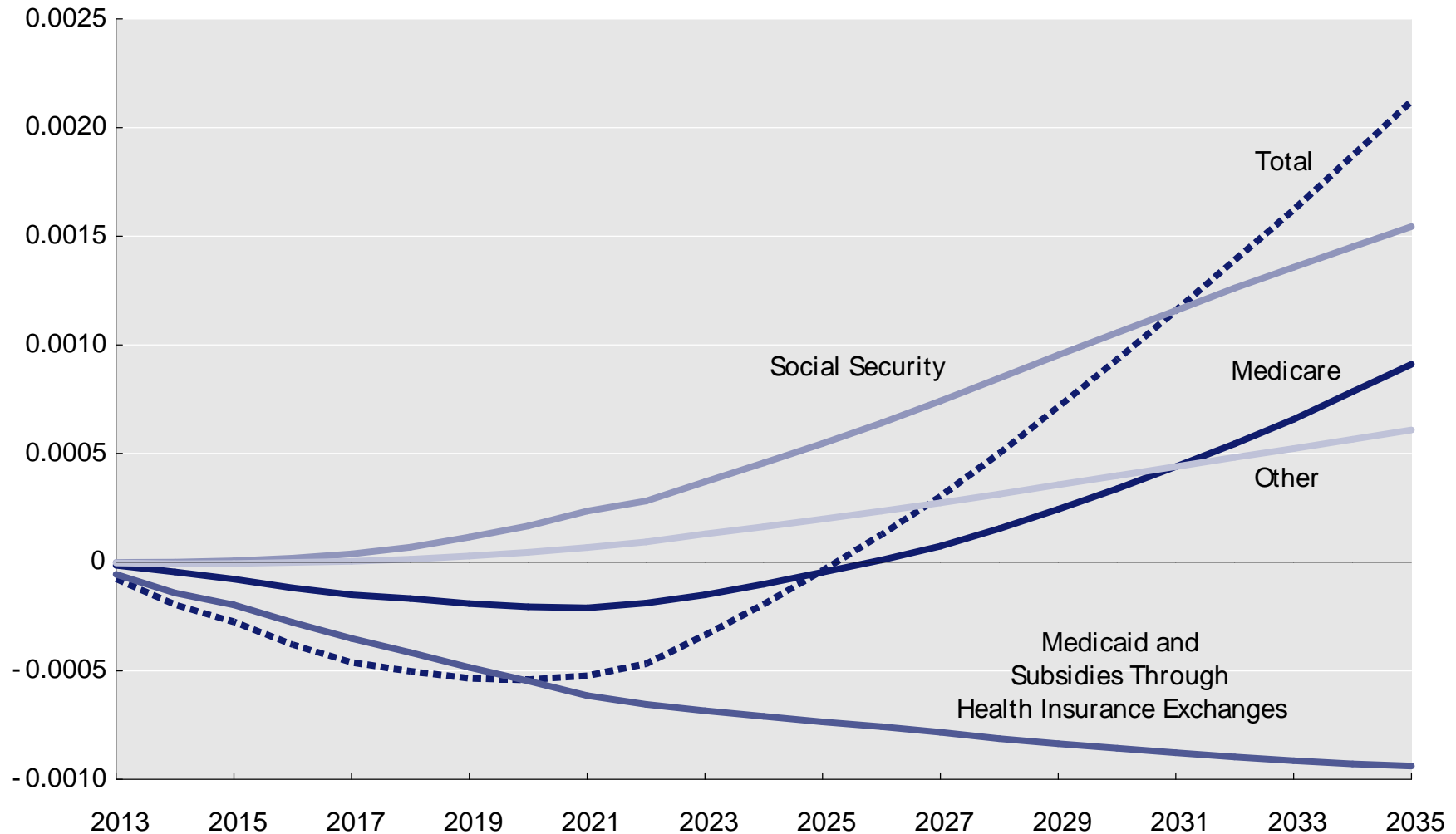
Logic Model for Analysis of Prevention Policies



50-Cent Increase in the Excise Tax on Cigarettes: Effects on Federal Outlays

Study Conclusions (1)

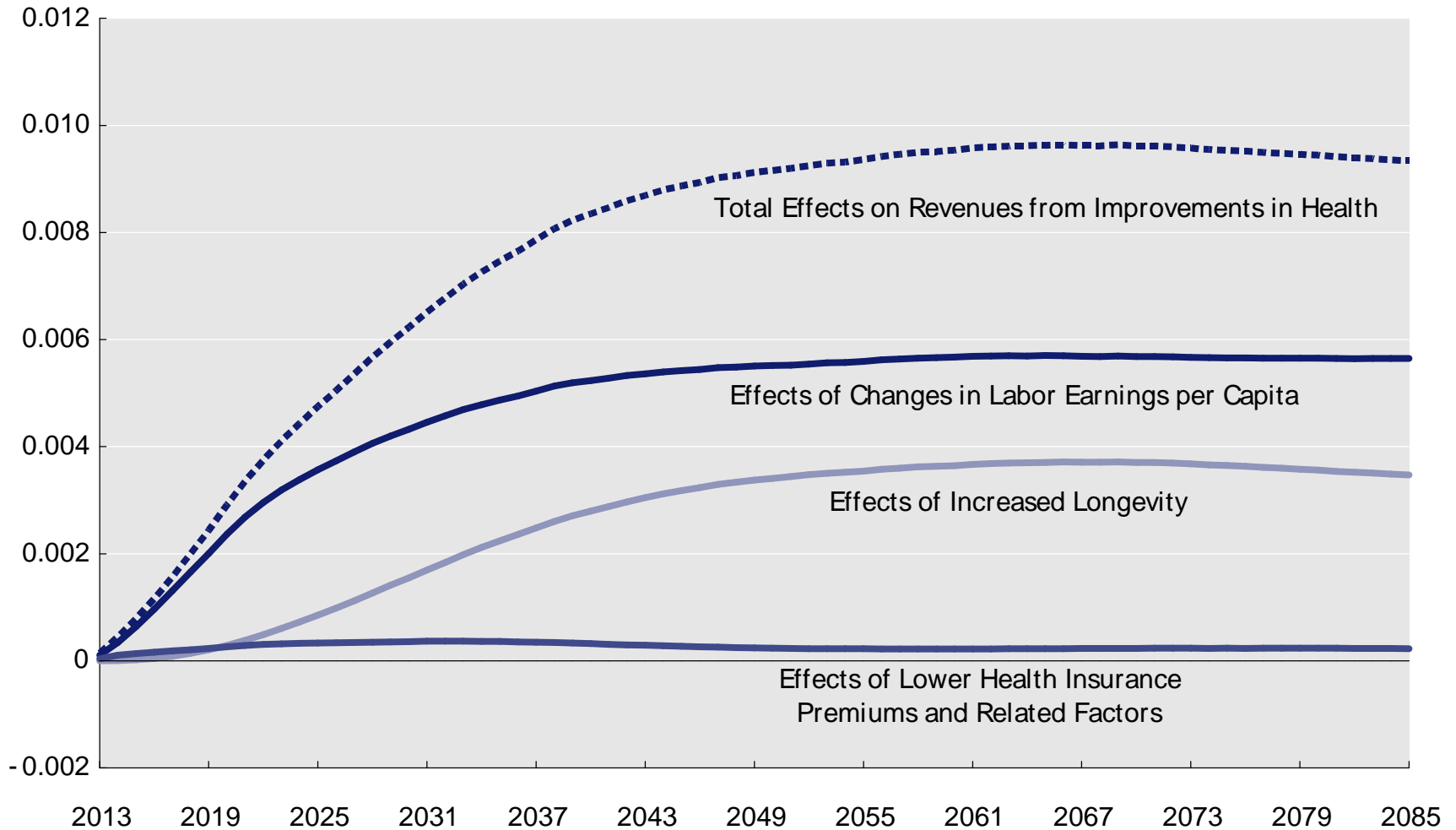
(Percentage of GDP)



50-Cent Increase in the Excise Tax on Cigarettes: Health-Related Effects on Federal Revenues

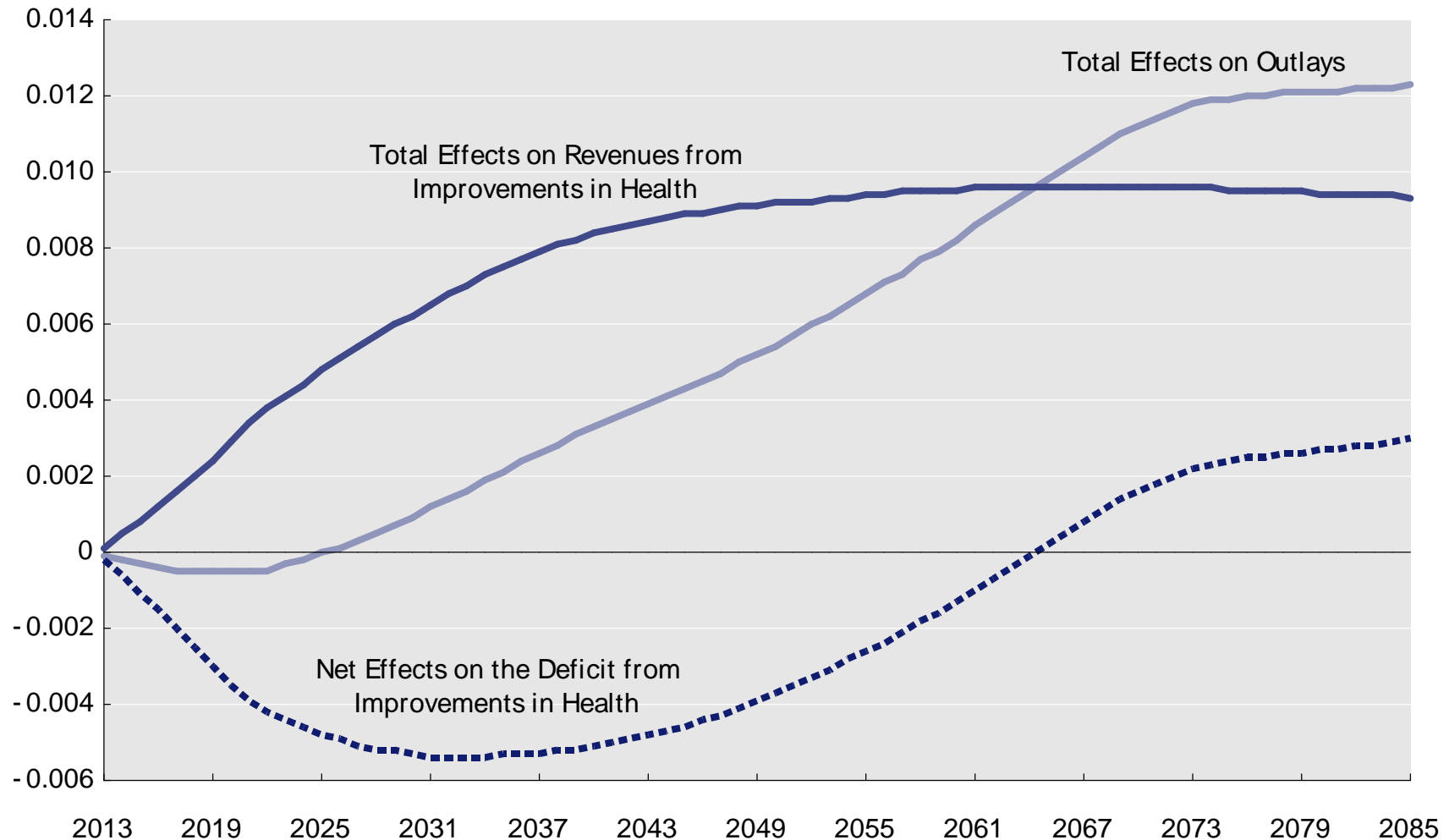
Study Conclusions (2)

(Percentage of GDP)



50-Cent Increase in the Excise Tax on Cigarettes: Health-Related Effects on Revenues, Outlays, and the Deficit Study Conclusions (3)

(Percentage of GDP)



Long-Term Budget Outlook, 2012

One-Page Infographic to Accompany Report

Congressional Budget Office

The 2012 Long-Term Budget Outlook

June 2012

CBO's long-term projections reflect two broad scenarios:

EB

CBO's Extended Baseline Scenario

Reflects the assumption that current laws generally remain unchanged, implying that lawmakers will allow tax increases and spending cuts scheduled under current law to occur and that they will forgo measures routinely taken in the past to avoid such changes. Noninterest spending continues to rise, however, pushed up by the aging of the population and the rising costs of health care, and revenues reach historically high levels.

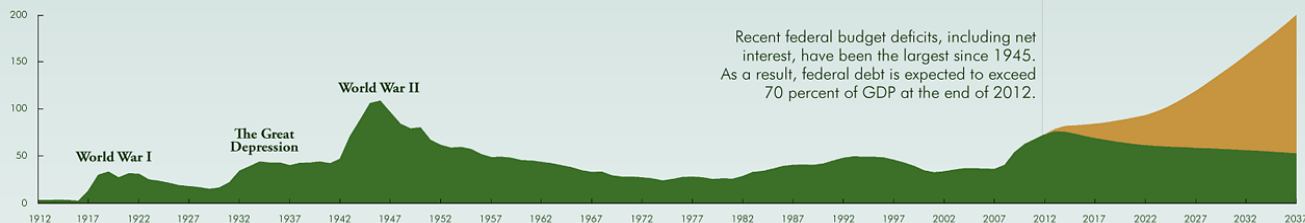
EAF

CBO's Extended Alternative Fiscal Scenario

Maintains what might be deemed current policies, as opposed to current laws, implying that lawmakers will extend most tax cuts and other forms of tax relief currently in place but set to expire and that they will prevent automatic spending reductions and certain spending restraints from occurring. Therefore, revenues remain near their historical average, and the gap between noninterest spending and revenues widens over the long term.

Federal Debt Held by the Public, Historically and Projected Under Two Policy Scenarios

(As a percentage of gross domestic product, GDP)



The explosive path of federal debt underscores the need for major changes to current policies.

Deficits are relatively small, and a growing economy results in declining federal debt as a percentage of GDP.

Extended Baseline Scenario

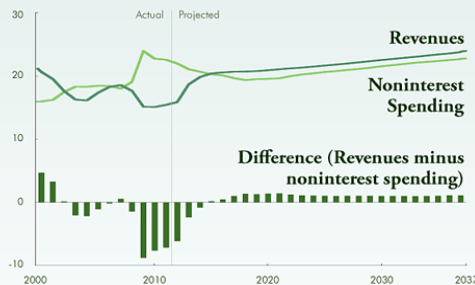
EB

Extended Alternative Fiscal Scenario

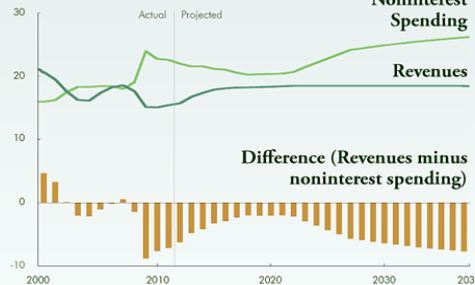
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Components of the Federal Budget

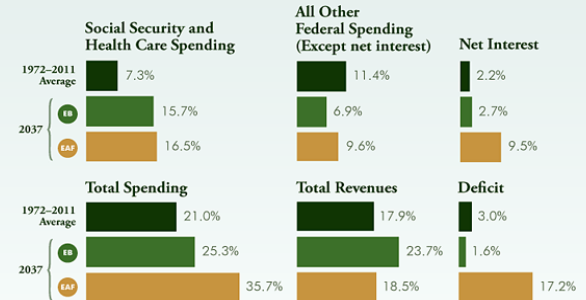
(As a percentage of GDP)



(As a percentage of GDP)



(As a percentage of GDP)



Note: Numbers may not add up to totals because of rounding.

Prepared by Maureen Costantino and Jonathan Schwabish
Contact: Long-Term Modeling Group



Sources: Congressional Budget Office; Office of Management and Budget
For details, see *The 2012 Long-Term Budget Outlook*, June 2012; <http://go.usa.gov/dKY>



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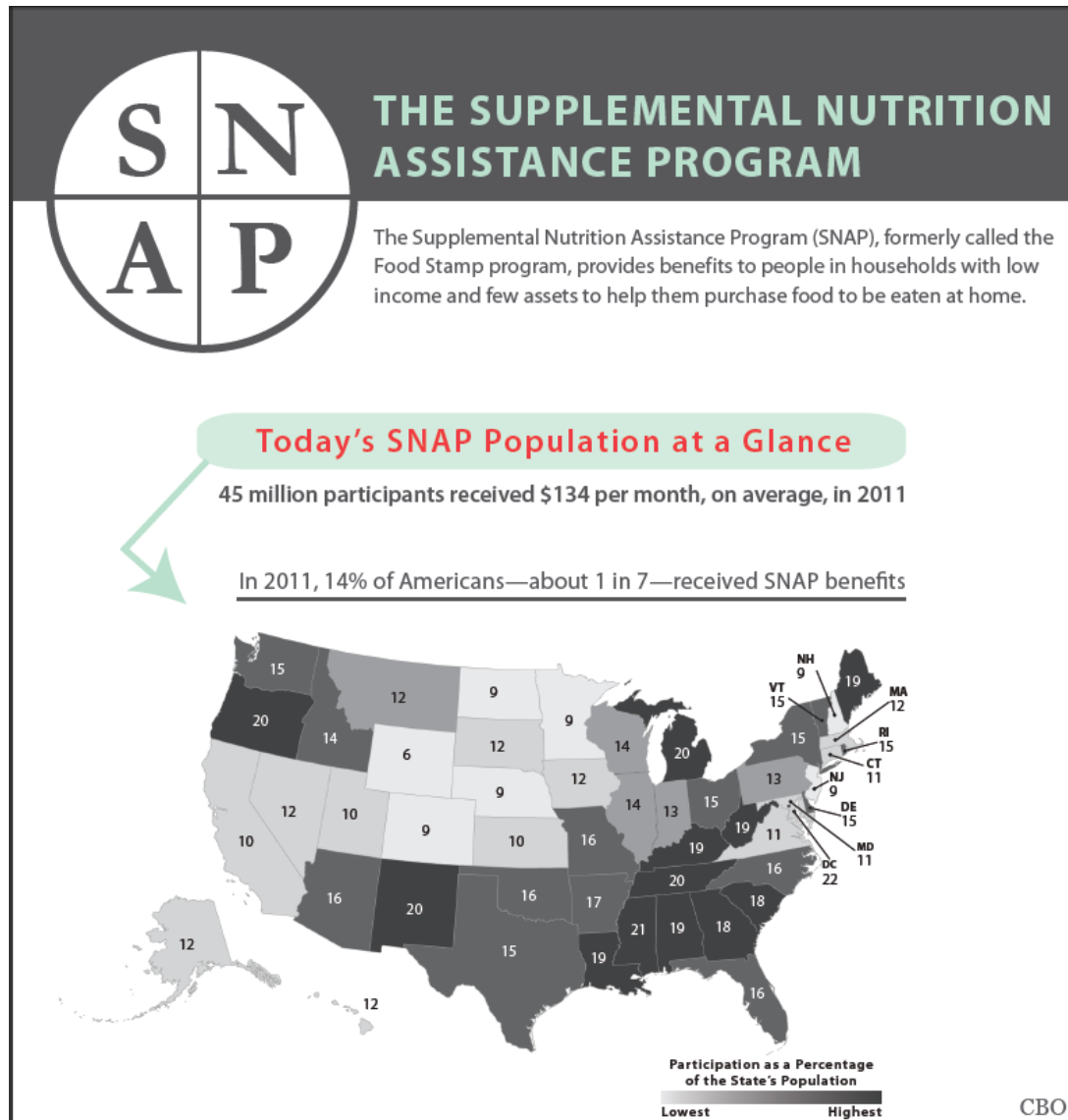
Revised Estimates of the Effects of the Affordable Care Act, Following the Supreme Court Decision

Anticipated Questions Addressed on the Web Landing Page

- What is the net budgetary impact of the coverage provisions, taking into account the Supreme Court's decision?
- How will states respond to the Supreme Court's decision regarding the Medicaid expansion?
- How does insurance coverage change after the Supreme Court's decision?
- Why are the projected Medicaid and CHIP savings stemming from the Supreme Court's decision greater than the projected additional costs of subsidies provided through the exchanges?

Report on the Supplemental Nutrition Assistance Program

Serial Infographic to Accompany Report (1)



Report on the Supplemental Nutrition Assistance Program

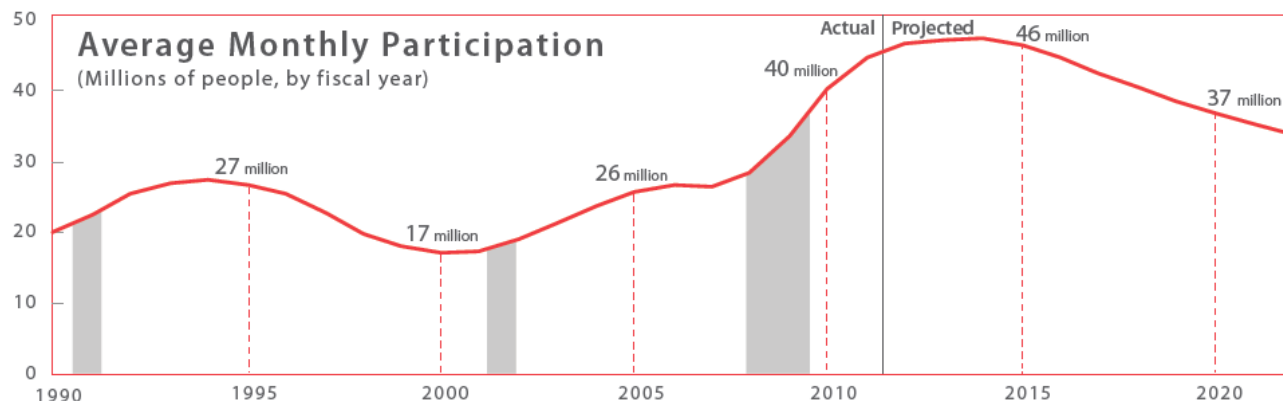
Serial Infographic to Accompany Report (2)

PARTICIPATION and FEDERAL SPENDING

PARTICIPATION

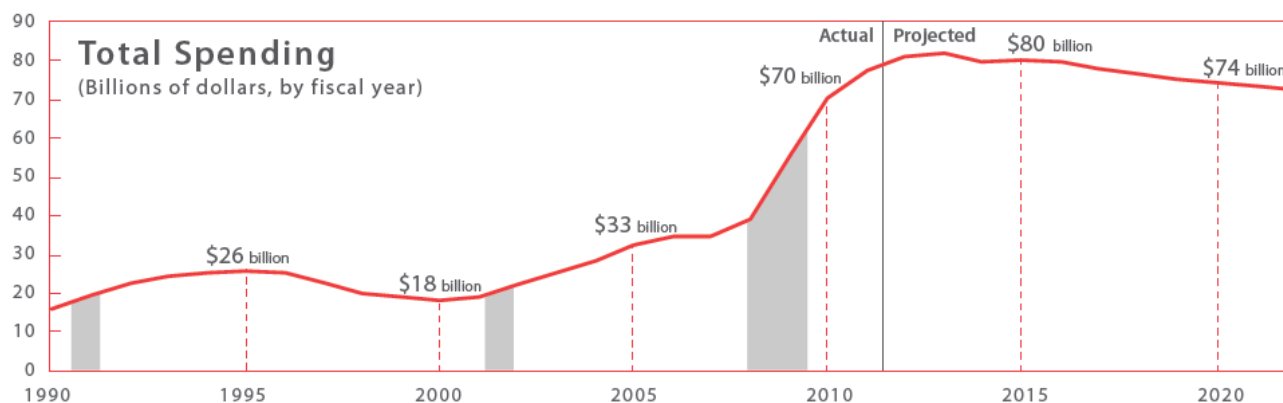
The number of people who receive SNAP varies in response to changes in economic conditions.

Participation following an economic downturn does not always drop back to the level experienced before the downturn.



SPENDING

The Congressional Budget Office estimates that total federal spending on SNAP will peak in fiscal year 2013 at \$82 billion.



Note: Shaded bars indicate periods of recession.

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Report on the Supplemental Nutrition Assistance Program

Serial Infographic to Accompany Report (3)

HOUSEHOLD COMPOSITION and CHARACTERISTICS

COMPOSITION

More than 18 million households participated in SNAP in 2010.

About 3 out of 4 households receiving SNAP benefits included a child, a person age 60 or older, or a disabled person.

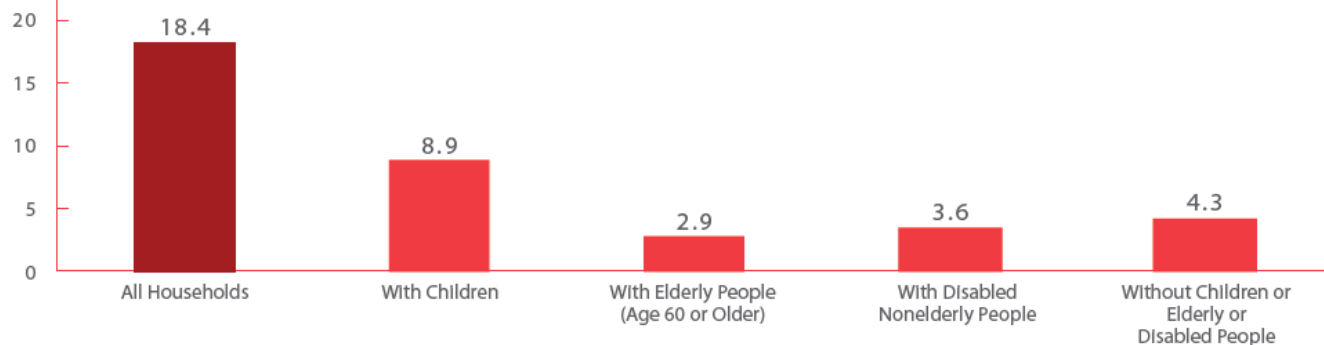
CHARACTERISTICS

Most people receiving SNAP benefits live in households with very low income.

On average, SNAP benefits in 2010 boosted total monthly income by 39% (\$287) for all participating households and by 45% (\$419) for households with children.

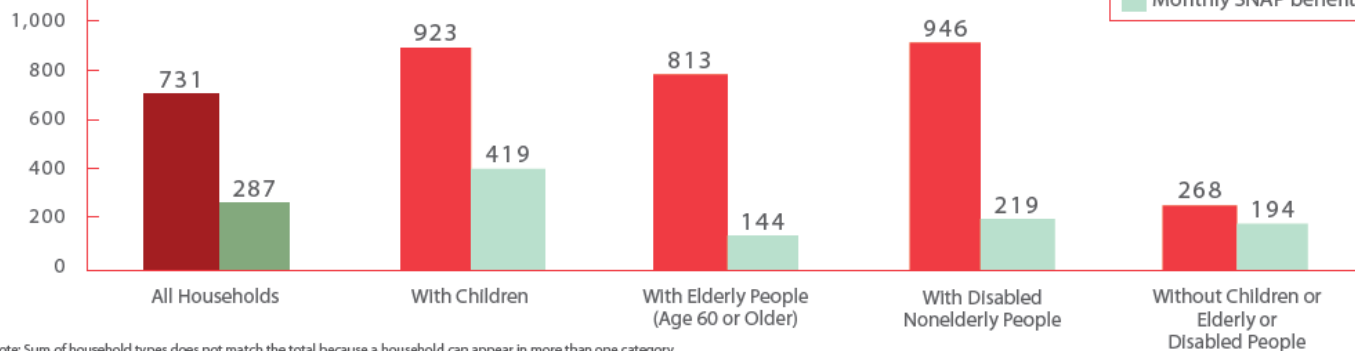
Participating Households, 2010

(Millions)



Average Monthly Income and SNAP Benefit, 2010

(Dollars)



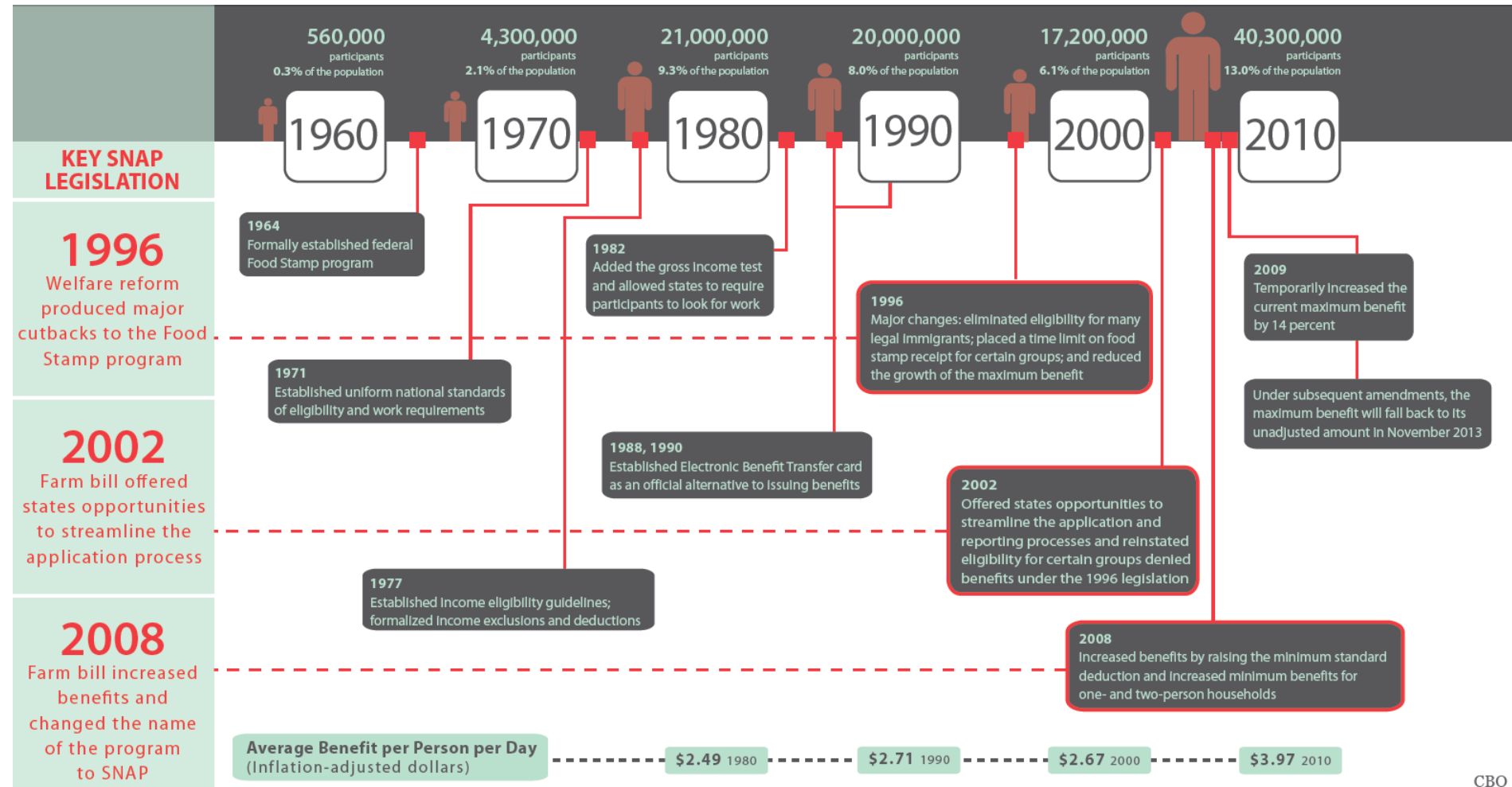
Note: Sum of household types does not match the total because a household can appear in more than one category.

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Report on the Supplemental Nutrition Assistance Program

Serial Infographic to Accompany Report (4)

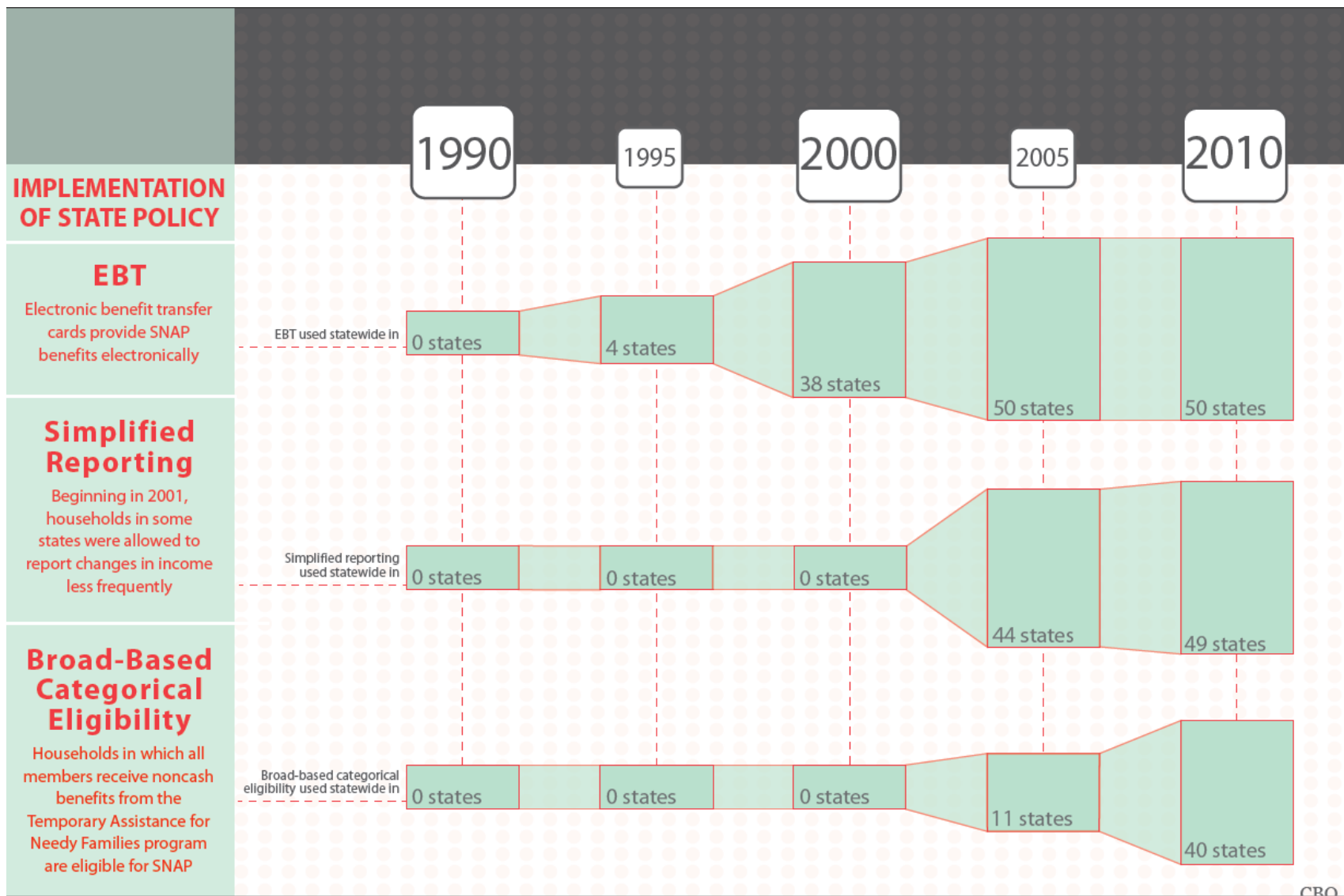


CBO



Report on the Supplemental Nutrition Assistance Program

Serial Infographic to Accompany Report (5)



Report on the Supplemental Nutrition Assistance Program

Serial Infographic to Accompany Report (6)

POLICY OPTIONS

CHANGING SNAP

CBO estimated the savings or costs associated with some possible options for changing the program

The graph shows the average estimated savings or costs in billions of dollars and as the average percentage of SNAP spending per year

For more details on these policies, see CBO, *Supplemental Nutrition Assistance Program*
<http://go.usa.gov/y2B>

Annual Outlays, 2013 to 2022—Billions of Dollars (Percent)

Average Decrease | Average Increase

Changing Broad-Based Categorical Eligibility

\$1.2 (1.6%)

Apply income and asset limits to categorically eligible households

Changing the Gross Income Limit

\$3.2 (4.1%)

Raise the gross income limit to 200 percent of the federal poverty guideline in all states

Lower the gross income limit to 100 percent of the federal poverty guideline in all states

\$1.0 (1.3%)

Changing the Asset Test

Eliminate the asset test

\$0.1 (0.1%)

Changing Benefits

Increase the maximum benefit to 103 percent of the cost of a nutritious diet

\$2.3 (3.0%)

\$2.3 (3.0%)

Decrease the maximum benefit to 97 percent of the cost of a nutritious diet

Increase the earned income deduction to 30 percent

\$2.7 (3.5%)

\$1.5 (1.9%)

Eliminate the automatic deduction for recipients of Low Income Home Energy Assistance Program benefits

SOURCES

Congressional Budget Office,
Food and Nutrition Service,
Census Bureau,
Mathematica, StatPlanet

Caroline Danielson and Jacob
Klerman, *Why Did the Food Stamp
Caseload Decline (and Rise)?* RAND
Labor and Population Working Paper
WR-167 (October 2004)

For more information, see the
following CBO publications:

*The Supplemental Nutrition
Assistance Program*
<http://go.usa.gov/y2B>



*Budget and Economic Outlook:
Fiscal Years 2012 to 2022*
<http://go.usa.gov/y2V>

Supplemental Data to the
Budget and Economic Outlook
<http://go.usa.gov/y2d>

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Conclusions on Dissemination

- Different approaches are effective with different audiences, requiring multiple products for each analysis
- Peer-reviewed literature reaches academics and researchers more than other audiences
- Brevity and simplicity are essential for policymakers and others; time is their scarcest commodity
- Well-designed graphics are important dissemination aids