

# How Do Consumer-Directed Health Care Plans Affect Medical Care?

Investigating their effect on the amount, patterns and quality of health care used

#### **SUMMARY**

From 2006 to 2011, researchers at the Rand Corporation (RAND)—a nonprofit research organization in Santa Monica, Calif.—conducted the first-ever large-scale, multi-employer study of the effect of consumer-directed health care plans on medical care.

Consumer-directed health care plans are an increasingly popular form of health insurance designed to make patients more cost-conscious in their health care choices through the use of higher deductibles and either:

- Health savings accounts (tax-advantaged medical savings accounts owned by the employee)
- Health reimbursement accounts (tax-advantaged accounts set up by the employer to reimburse employee medical expenses)

#### The study assessed:

- The effects of such plans on their users' access to, cost and utilization of health care
- The plans' particular impact—if any—on vulnerable populations (defined for the study as lower-income and chronically ill people)
- Future national impact of widespread use of such plans

# **Key Findings**

- Families enrolling in consumer-directed health plans for the first time in 2005 spent 14 percent less than similar families enrolled in conventional plans. In addition, the benefit designs of consumer-directed health plans almost always affected vulnerable populations to the same extent as nonvulnerable populations.
- For both nonvulnerable and vulnerable populations, enrollment in consumer-directed health plans was associated with moderate reductions in the use of preventive care, despite the fact that these plans waived the deductible for preventive care.

- About two-thirds of the cost savings from enrollment in a consumer-directed health
  plan came from reductions in the number of episodes of care and the remaining onethird of the savings from reductions in costs per episode.
- If the percentage of the nonelderly population who are enrolled through their employer in a consumer-directed health plan were to increase immediately from 12.4 percent to 50 percent, the savings in personal health care expenditures nationally—over a 10 year period—would total \$57.1 billion.

# **Funding**

The Robert Wood Johnson Foundation (RWJF) supported this project through a grant of \$2 million. The California HealthCare Foundation provided an additional \$2,069,475 for the project.

#### **CONTEXT**

According to Co-Principal Investigator Susan Marquis, Ph.D., health insurance products in the United States are undergoing significant and rapid change. Insurance models entailing greater cost-sharing on the part of patients have replaced managed care as the mechanism it is hoped will control rising health care costs.

These models—usually referred to as consumer-directed health plans—are designed to make patients more cost conscious in their health care choices through the use of higher deductibles and either a health reimbursement account or a health savings account. They are also often coupled with information tools intended to help consumers make better choices about the health care they use.

(Health reimbursement accounts allow employers to set aside funds in a tax-advantaged account to reimburse employee medical expenses. Health savings accounts, which allow employees to set up their own tax-advantaged medical savings account, create stronger financial incentives for employees to manage health care costs than do health reimbursement accounts because the account balance is owned by the employee and is portable when the employee changes jobs.)

The market penetration of consumer-directed health plans within the employee-sponsored insurance market has been growing at an annual rate of 34 percent in recent years. Due to incentives within the Affordable Care Act of 2010, combined with the fact that many large employers are planning to expand offerings for these plans, it is reasonable to believe that market share may increase to 50 percent in 10 years.

However, there has been very little research on the impact of these plans on the health care system, and it is unclear how they influence the use, access to and quality of medical care, especially for people who have lower incomes or are chronically ill.

#### **RWJF's Interest in This Area**

Americans' lack of meaningful access to affordable and stable health care coverage has been a central concern of the Foundation since its inception 35 years ago.

## THE PROJECT AND ITS FINDINGS

The study by RAND researchers assessed:

- The impact of consumer-directed plans on users' access to, cost and utilization of health care
- The plans' particular impact—if any—on vulnerable populations (defined as lower-income and chronically ill people)
- Future national impact of widespread use of such plans

The research team also conducted a literature review of the research on the effect of these plans on cost and quality of health care. See Appendix 1 for a list of its findings.

A five-member advisory group provided research guidance for the project. Its membership represented academia, government and nonprofit health policy organizations. For a list of its members see Appendix 2.

In addition, the California HealthCare Foundation convened a 15-member stakeholder advisory group to assure that project work aligned with stakeholders' needs. (See Appendix 3.)

The research team used 2003–07 health care claims data from 59 large employers, representing a range of geographic regions, employee income levels, proportion of employees enrolling in higher deductible plans, and high-deductible plan characteristics.

Thirty-one of these companies were known to offer high-deductible health plans—defined as having deductibles of \$500 or more during the period. Researchers conducted interviews with representatives from these companies to gather information about benefits that they offered through these plans.

The team added 28 other employers to the sample to improve the balance in the distribution of employee characteristics across all health plans. All told, across both groups, some 43 employers in the sample offered a consumer-directed health plan as an option at some time during the study.

The team then used the data to investigate:

• The effect of consumer-directed health plans on health care spending and the use of recommended preventive care, for general employees and for vulnerable populations

- How the use of consumer-directed health plans results in cost savings
- Whether the savings resulting from the use of consumer-directed health plans came from a reduction in the number of patient-initiated episodes of care, or from a reduction of costs of the episodes
- The national implications of increasing market share of consumer-directed health plans

The team contracted with two business consulting firms for assistance in the project:

- New York-based Towers Watson (formerly Watson Wyatt), for actuarial and analytical assistance
- New York-based Thompson Reuters (formerly Medstat), for assistance in collecting medical claims data

# The Effect of Consumer-Directed Health Plans on Health Care Spending and Preventive Care

To investigate the effects of consumer-directed health plans on health care spending and on the use of recommended preventive care, the research team analyzed claims and enrollment data from 53 of the 59 large employers, for a total of 808,707 households. Twenty-eight of these 53 companies offered consumer-directed health plans during the period examined (2004–05).

The team estimated the effects of enrollment in consumer-directed health plans on the growth of health care costs between 2004 and 2005 by comparing the cost growth for families who were enrolled in these plans for the first time in 2005 with the cost growth for a control group consisting of families who were not offered the plans.

To adjust for selection bias (caused, for example, by the different propensities of the two groups to use health care or trust in physicians), the team matched the two groups on characteristics such as family type, income, education levels and industry of employment.

Using similar methods, the team examined the effects of enrollment in consumer-directed health plans on the use of preventive care (i.e., cancer and diabetes screenings, and childhood immunizations), the deductible for which was waived by almost all of these plans.

# **Findings**

The research team reported the following findings in an article published in the *American Journal of Managed Care*<sup>1</sup>:

- Total health care expenditures from all payment sources (families, employers and insurers) for families enrolling in consumer-directed health plans for the first time was 14 percent less than for similar families enrolled in conventional plans.
- Only plans with deductibles of at least \$1,000 resulted in significant savings, and savings decreased with generous (more than or equal to \$500) employer contributions to health care accounts.
- Enrollment in consumer-directed health plans was associated with moderate reductions in the use of preventive care, despite the fact that these plans waived the deductible for preventive care.

Researchers note that further study is needed to determine if costs continue to grow more slowly for these plans compared to conventional plans after the first-year savings, and whether patients increase their use of preventive care as they become more familiar with plan provisions.

# **The Effect of Consumer-Directed Health Plans on Vulnerable Populations**

The research team used 2003–07 health care claims data from the 59 large employers to estimate how consumer-directed health plans affect health care costs and the use of preventive services by vulnerable populations. They also examined the effects of health savings accounts versus health reimbursement accounts on health care expenditures.

The vulnerable populations studied were those that will have increased access to health insurance under the Affordable Care Act of 2010: families with high health care needs and low-income families. They were all were full-time employees and dependents who were continuously enrolled in their employer's health benefit program for a period of two consecutive plan years.

For the purposes of comparison, the team assigned them to two groups:

• Treatment families (136,269 individuals) who selected a traditional health plan in the first year and a high deductible plan (\$500 or more) in the second year

<sup>&</sup>lt;sup>1</sup> Buntin MB, Haviland AM, McDevitt RD and Sood N. "Health Care Spending and Preventive Care in High Deductible and Consumer Directed Health Plans." *American Journal of Managed Care*, 17(3): 222–230, 2011. Available online.

• Control families (232,369 individuals) who were enrolled in a traditional plan for both plan years and whose employer did not offer a plan with an individual deductible of \$500 or more during the time period

# **Findings**

The research team reported the following findings in an article published in *Forum for Health Economics & Policy*<sup>2</sup>:

- In almost all cases, the benefit designs of consumer-directed health plans affect lower-income populations and the chronically ill to the same extent as nonvulnerable populations. These effects include significant reductions in overall spending that increase with the level of the deductible. Greater reductions were found for high-deductible plans when paired with health savings accounts (employee-owned) in comparison to health reimbursement accounts (employer-owned).
- However, enrollment in consumer-directed health plans does lead to reductions
  in preventive care that are considered beneficial for all groups (for example,
  recommended cancer screening), even though the deductible is waived for
  preventive care in most of the high-deductible plans. This may have greater health
  consequences for lower-income and chronically ill people than for others.

# The Effect of Consumer-Directed Health Plans on Episodes of Health Care

In this study, the research team investigated how the cost savings associated with these plans are realized. That is, do consumer-directed health plans lead primarily to a reduction in the number of patient-initiated episodes of health care or do they also influence episode costs?

The team analyzed insurance claims information from 2003 to 2007 for employees and dependents of the 59 large U.S. employers, 43 of which offered a consumer-directed health plan as an option at some time during the study.

The study sample included full-time employees and dependents who were continuously enrolled in their employer's health plan for a period of two full plan years. For the purposes of comparison, the team assigned them to two groups:

• A treatment group consisting of 286,221 individuals who selected a traditional health plan in the first year and a consumer-directed health plan (with a deductible of at least \$500) in the second year

<sup>&</sup>lt;sup>2</sup> Haviland AM, Sood N, McDevitt RD and Marquis MS. "How do Consumer Directed Health Plans Affect Vulnerable Populations?" *Forum for Health Economics & Policy*, 14(12), 2011. Abstract available online.

• A control group consisting of 502,661 individuals who were enrolled in a traditional plan for both plan years and whose employers did not offer a plan with an individual deductible of \$500 or more during that time period

# **Findings**

The research team reported the following findings in an article published in *Forum for Health Economics & Policy*<sup>3</sup>:

- About two-thirds of the cost savings from enrollment in a consumer-directed health plan are from reductions in the number of episodes of care and the remaining one-third of the savings are from reductions in costs per episode.
- Whether or not an enrollee has a health care savings account does not influence
  the effects of high deductibles on the number of enrollee episodes. However,
  enrollees in plans with generous employer contributions to health savings accounts
  have more episodes of care than enrollees in plans where employers make smaller
  account contributions.

# National Implications of Increasing Market Share of Consumer-Directed Health Plans

In this study, researchers estimated the national effects if 50 percent of health plans within the employer-sponsored insurance market were consumer-directed health plans. To do this, the team incorporated findings from the above studies with baseline population and expenditure data for the national nonelderly (under age 65) population of workers and retirees.

For the purposes of this study, the research team defined consumer-directed health plans as having a deductible equal to or greater than the qualifying deductible for a health savings account (\$1,000 to \$1,100 during the study period), along with the presence of either a health reimbursement account or a health savings account.

## **Findings**

The research team reported the following findings in an article published in *Health Affairs*, "Growth Of Consumer-Directed Health Plans To One-Half Of All Employer-Sponsored Insurance Could Save \$57 Billion Annually.<sup>4</sup>"

• If the percentage of the nonelderly population who are enrolled through their employer in a consumer-directed health plan were to increase immediately from

<sup>&</sup>lt;sup>3</sup> Haviland AM, Sood N, McDevitt RD and Marquis MS. "The Effects of Consumer-Directed Health Plans on Episodes of Health Care." *Forum for Health Economics & Policy*, forthcoming.

<sup>&</sup>lt;sup>4</sup> Haviland AM, Marquis MS, McDevitt R and Sood N. "Growth Of Consumer-Directed Health Plans To One-Half Of All Employer-Sponsored Insurance Could Save \$57 Billion Annually," *Health Affairs*, 31(5): 1009–1015, 2012. Article available online.

12.4 percent to 50 percent, the savings in personal health care expenditures nationally—over a 10 year period—would total \$57.1 billion.

Savings of this magnitude would comprise 7 percent of all health care spending for people with employee-sponsored insurance and 4 percent of health care spending for the nonelderly population as a whole.

• A larger savings could be realized through the increased use of health savings accounts (employee-owned) over health reimbursement accounts (employer-owned). Over the same 10-year period, savings could be as much as 5 percent of all personal health care spending for the nonelderly population if all of the new consumer-based health plan enrollees were in plans with health savings accounts, compared to as low as 3 percent if all the new enrollees were in plans with health reimbursement accounts.

#### **Communications Results**

The research team wrote five articles, four of which were published or forthcoming as of July 2011. They also wrote a report and a policy brief. See the Bibliography for details. The study was widely covered by the media, including interviews with team members by National Public Radio.

#### **LESSONS LEARNED**

1. Try to foresee and, if possible, reduce the work in gathering and cleaning data. Because most of the employers in this study organized and formatted employee and medical claims data differently, researchers spent considerable effort identifying data to use and making it usable. Conferring first with employers, contractors and consultants about potential data problems may help reduce the amount of this work. (Co-Principal Investigator Amelia Haviland)

#### **AFTERWARD**

The research team is preparing one more article on the study, which will describe:

- How often employees choose consumer-directed health plans when more traditional plans are also offered
- Characteristics of the employee population selecting such plans and how that population varies according to the benefits offered

**Prepared by: Robert Crum** 

Reviewed by: James Wood and Robert Narus

Program Officer: Brian C. Quinn

Grant ID#: 57576
Program area: Coverage

#### **APPENDIX 1**

#### **Literature Review**

The research team reviewed the research literature as well as reports from carriers and employers in order to:

- Examine recent trends in consumer-directed health plan enrollment
- Understand the effect of consumer-directed health plans on health care use, costs and quality, including the potential negative selection effects whereby low-deductible insurance is more attractive to sicker people and consumer-directed health plans are more attractive to healthy people
- Present data on the role of information under consumer-directed plan designs
- Present recommendations for policy and future research

# **Findings**

In 2006 the research team reported the following findings in an article published as a Web Exclusive in *Health Affairs*<sup>5</sup>:

- There is evidence of a modest selection effect whereby people who choose consumer-directed health plans have higher incomes and appear to be in better health than people who enroll in other plans.
- There are early reports that consumer-directed plans are associated with both lower costs and lower cost increases.
- The early effects of consumer-directed health plans on quality of health care are mixed, with evidence of both appropriate and inappropriate changes in care use.
- Greater information about prices, quality and treatment choices will be critical if consumer-directed health plans are to achieve their goals.
- More research is needed that:
  - Examines a broad range of benefit designs
  - Includes a sufficient sample to accurately assess different effects of consumerdirected health plans among vulnerable populations
  - Measures changes in patterns of use

Buntin MB et al. "Consumer-Directed Health Care: Early Evidence about Effects on Cost and Quality." *Health Affairs* (Web Exclusive), 25: w516–w530, 2006. Available online.

 Adopts rigorous analytic techniques and methods that will produce reliable and generalizable conclusions

#### **APPENDIX 2**

# **Research Advisory Group**

(Current as of the end date of the program; provided by the program's management; not verified by RWJF.)

#### Linda Bilheimer, Ph.D.

Associate Director for Analysis and Epidemiology National Center for Health Statistics Centers for Disease Control and Prevention Atlanta, Ga.

#### Janet M. Corrigan, Ph.D., M.B.A.

President and CEO National Quality Forum Washington, D.C.

#### Paul Ginsburg, Ph.D.

President

Center for Studying Health System Change Washington, D.C.

#### Joseph P. Newhouse, Ph.D.

Professor Department of Health Care Policy Harvard University Cambridge, Mass.

#### **Dennis Patrick Scanlon, Ph.D.**

Professor Department of Health Policy and Administration Pennsylvania State University University Park, Pa.

#### **APPENDIX 3**

# **Stakeholder Advisory Group**

(Current as of the end date of the program; provided by the program's management; not verified by RWJF.)

# Ellen Badley, M.H.A.

Chief, Office of Health Plan Administration Health Benefits Branch California Public Employees' Retirement System Sacramento, Calif.

#### **Cindy Ehnes**

Director
Department of Managed Health Care
Sacramento, Calif.

#### **Brenna Haviland**

Manager, Institute on Health Care Costs and Solutions National Business Group on Health Washington, D.C.

#### Elizabeth Imholz, J.D.

Consumers Union San Francisco, Calif.

#### **Patrick Johnston**

President and CEO California Association of Health Plans Sacramento, Calif.

#### Peter Lee, J.D.

Executive Director, National Health Policy Pacific Business Group on Health San Francisco, Calif.

#### **Jeff Lemieux**

Senior Vice President America's Health Insurance Plans Washington, D.C.

#### Tom Moore Jr.

Health Policy and Program Consultant San Francisco, Calif.

# Patricia P. Smith

President and CEO Alliance of Community Health Plans San Francisco, Calif.

# **Anthony Wright**

Executive Director Health Access San Francisco, Calif.

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