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findings brief

key findings

- Five main features of value-based insurance design plans were found to be associated with higher rates of medication adherence:
  - Plans that provide more generous coverage
  - Plans that target high-risk patients
  - Plans that offer wellness programs
  - Plans that do not offer disease management programs
  - Plans that make the benefit available only for medication order by mail

Achieving Medication Adherence through Value-Based Insurance Design

Overview

Cost sharing, often seen in the form of copayments, coinsurance, and deductibles, is commonly used to reign in health care spending. While the intent of cost sharing is to promote greater patient engagement around value-based health care choices, it can lead to patients avoiding necessary medications or services. Value-based insurance design plans (VBID) plans reduce this effect by limiting or eliminating cost sharing for medications and services that offer patients a high value return on their health. How VBID plans are structured and implemented can have differential effects on patient behavior and their ultimate outcomes.

In a HCFO-funded study, Niteesh Choudhry, M.D., Ph.D., of Brigham and Women's Hospital and colleagues examined how different characteristics of VBID plans affected medication adherence and identified best practices for the future implementation of VBID plans.[1]

Study Design and Methods

The researchers focused on VBID plans introduced by pharmacy benefits manager CVS Caremark between 2007 and 2010. They identified six plan features, which they hypothesized would influence medication adherence and categorized plans according to whether they had these features:

- Targeting high-risk patients only
- Providing generous benefits (in the form of copay reductions)[2]
- Eliminating copay-tiers
- Offering a disease management program[3]
- Offering a wellness program[4]
- Making the benefit available for prescriptions filled by mail order only

The researchers categorized the plans into three groups based on how patients were targeted:

- Plans that targeted high-risk patients
- Plans that required patients to engage in a specific behavior (e.g. complete a health risk assessment) to qualify for reduced copays

Robert Wood Johnson Foundation

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- Plans that lowered copays for all patients who were prescribed a drug regardless of patient characteristics

The researchers restricted their analysis to clinical conditions for which they located at least one plan with and one without the six characteristics of interest. Their final study cohort was comprised of 274,554 patients in 76 VBID plans offered through 33 plan sponsors.

Using an interrupted time series design with a concurrent control group, the researchers compared medication adherence post implementation of VBID plans with each of the six features and the level of adherence that was expected for each plan. VBID plans without a certain characteristic served as the control group for the plans with the characteristic. The researchers supplemented prescription claims data and client-specific lists of medications affected by copay changes with information gathered through surveys with plan sponsors and CVS account team managers.

The researchers established a pre- and post-implementation period based on the date a plan was launched, including 18 months prior and 12 months after the launch. They tracked patients in this period from the date they filled their first eligible prescription (index date) and measured the proportion of days for each month for which patients had medication available to them, beginning with their index date.

Finally, the researchers conducted several sensitivity analyses to measure the strength of their findings.

Limitations

The researchers acknowledge several important methodological limitations associated with the time-series analysis used to conduct their evaluation. First, their findings could have been affected by changes in patient characteristics over time. Second, medication adherence improvement could have resulted from other simultaneous events, including other changes in plan design. Finally, the researchers cannot account for why some plans chose to introduce VBID linked with other programs while others did not. Other limitations include the use of prescription refill claims to assess medication adherence and the study's focus on a single pharmacy benefit manager, which could impact generalizability.

Results, Discussion and Policy Implications

The researchers evaluated the VBID plan design features independently and simultaneously, along with sensitivity analyses to confirm their results. They determined that the design of these programs strongly influence a patient's medication adherence. VBID plans that were more generous, targeted high-risk patients, had wellness programs, did not have disease management programs, and made the benefit available only for medication ordered by mail resulted in improved and long-term adherence. These results were consistent across the various disease states. The researchers initially hypothesized that disease management programs, with their focus on patient engagement, would positively influence medication adherence; however, their results showed a large and consistently negative effect. It may be that disease management blunts the effect of the VBID or that the beneficial effects of disease management result from healthy behaviors outside of medication adherence. The researchers may have also encountered a "ceiling effect" with little room for improvement beyond a relatively high baseline level of adherence.

The beneficial association between wellness programs, patient targeting, and mail-order prescriptions may have important implications for augmenting VBID programs insofar as these interventions are low cost and easy to implement.

The researchers note that the results of their research have broad implications even beyond their potential impact on VBID design. They suggest that their analytic approach could help identify the best ways to structure other benefit designs and quality improvement programs.

Conclusion

Findings from this study suggest that the structure of VBID plans can influence a patient's behavior, particularly around medication adherence. The study also serves as a signal to benefits managers that it is important to find the right mix of plan characteristics to ensure positive results.

For More Information

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About the Author

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Endnotes

1. For complete findings, see Choudhry, N.K., Fischer, M.A., Smith, B.F., Brill, G., Girdish, C., Matlin, O.S., Brennan, T.A., Avorn, J., and Shrank, W.H., Five Features Of Value-Based Insurance Design Plans Were Associated With Higher Rates of Medication Adherence, Health Affairs, Vol. 33, No. 3, 2014, pp 1-9.
2. Plans were defined as having generous copay reductions if copays for generic drugs were $0 and copays and coinsurance for brand-name drugs were no more than $10 and 15% respectively.
3. Plans were classified as having a disease management program if the program was available when the VBID plan was implemented.
4. Plans were classified as having a wellness program if the program was available when the VBID plan was implemented.