

FUTURE RESEARCH

The results presented in this study provide a wealth of information on prescription drug use in the United States. This study used recent data from multiple surveys, private sector pricing data, and outreach meetings with industry representatives and researchers to provide a detailed examination of multiple factors relating to coverage, utilization, and spending for prescription drugs, particularly by the Medicare population.

The descriptive results presented here raise a variety of issues that are ripe for further investigation. The study has revealed suggestive relationships between demographic factors, insurance status, and prescription drug use; however, we were unable to examine the interrelationships among these factors. Future multivariate analyses will allow us to come to a more nuanced understanding of these relationships. In addition, future research will explore what can be learned from using more sophisticated definitions of drug coverage status and severity of illness than were available for this study. Also, ongoing analyses will allow us to continue to use the most recent data. Rapid change in the pharmaceutical market requires that analyses be refreshed and updated on a continuing basis.

Some possible avenues for future research based on the results of this study include the following:

- ***What are the characteristics of Medicare beneficiaries with and without drug coverage?*** Despite the wealth of descriptive material we assembled on this issue, lack of a multivariate analysis hinders our interpretation of the reason why some beneficiaries maintain coverage and others do not. A particularly important question yet to be answered is whether beneficiaries with the greatest need for coverage find it easy or difficult to obtain it. An equally important set of questions includes how stable prescription drug coverage is for those who have it, for which people coverage is least stable, and the consequences of unstable coverage.
- ***What factors explain drug spending by Medicare beneficiaries?*** Our study demonstrated that covered individuals use more drugs than those without drug coverage, but we were unable to provide a causal explanation for this difference. Further work is needed to disentangle the effects of barriers to access, adverse selection, and moral hazard in determining the spending patterns of covered and uncovered beneficiaries.

- ***Can the appropriate use of prescription drugs reduce the need for other health care services like hospitalization or nursing home care?*** While there have been some studies suggesting that medication can reduce the need for hospital care in the case of specific medical conditions, there is little consensus among researchers on this issue. Most analyses of health care spending tend to look at expenditures for prescription drugs in isolation from other kinds of health care spending and utilization. Our study did not address this question. More research is needed in order to understand the way in which access to drugs affects overall health care spending and the quality of medical care.
- ***Does drug coverage influence the type of medications used? Do beneficiaries face barriers to access to breakthrough therapies because of their lack of drug coverage?*** Our preliminary findings indicate that there appears to be a difference in the mix of drugs used by covered and uncovered beneficiaries. We are, as yet, unable to explain that difference or evaluate its significance. Further research could explore this issue through an analysis that includes measures of severity of illness for particular medical conditions, and focuses on specific therapeutic classes of drugs. Simple tabulations, for example, suggest that different types of hypertension drugs are used by those with and without coverage. But a more thorough analysis needs to consider various factors (e.g., severity, coexisting conditions, race) that affect choice of therapy.
- ***Have changes in the pharmaceutical industry and the organization of prescription drug benefits affected the price of drugs and drug utilization for covered and uncovered beneficiaries?*** Our analysis of price information and discussions with industry representatives have left us with many questions about how the industry is structured and the dynamics of the pharmaceutical marketplace. Additionally, ongoing trends like direct-to-consumer advertising or the continual emergence of important new “breakthrough” drug therapies have been outside the scope of our study. The complex set of interactions that connect drug manufacturers to patients will require considerably more analysis to learn whether these trends will exacerbate the differences seen in this report for covered and uncovered beneficiaries. In addition, if more data were available on elements of manufacturer pricing, such as rebates, further research could probe more fully the differences in prices paid by different customers.
- ***How have the techniques developed by PBMs like drug utilization review (DUR) and formulary management affected the quality of pharmaceutical care received by individuals?*** Our study draws attention to the way in which PBM management of drug benefits has affected the pricing structure of the industry. Further research is needed to determine whether these management strategies

have had an impact on access by beneficiaries to appropriate medications and or on the number of adverse drug reactions in the population. Among the questions to be answered include: How much variation exists among PBMs with regard to mechanisms used to screen prescriptions for drug interactions and other safety issues? How are DUR systems updated to incorporate safety information for newly approved drugs and the experience with those drugs among the larger patient population? Is the needed data available to permit timely and rigorous comparisons of competing drug therapies? What effect will emerging strategies such as prior authorization have on access to needed drugs?

- ***What is the pattern of drug utilization and spending by disabled beneficiaries and beneficiaries in nursing homes and other institutions?*** Our study, like most previous research, focused only on Medicare beneficiaries living within the community. Yet beneficiaries who are nursing home residents are heavy utilizers of prescription drugs. In addition, while beneficiaries under age 65 were included in this report, they clearly have different utilization patterns that we were not able to pursue here. The prescription drug needs of these populations are largely unexplored. For example, there is a much higher prevalence of mental illness among the disabled compared to the elderly, making behavioral medicine a critical issue for this population group. The disabled also do not have the same access to private Medigap supplements as those over 65 years of age. Further work is needed to explore the utilization and spending patterns of these populations.
- ***What explains geographical variations in prescription drug utilization and prices?*** Our analysis revealed striking regional variations in drug prices faced by beneficiaries and in utilization of drugs. Further work is needed to understand what factors are driving these variations and what consequences they have for beneficiaries.
- ***How are changes in prescription drug coverage affecting utilization and prices?*** Our analysis has observed a dramatic shift in drug coverage over the past decade from indemnity coverage to third-party coverage at the point of sale managed by pharmacy benefit managers. A better understanding is needed of the effects of this shift, especially on those lacking drug coverage.
- ***How do Medicare+Choice plans manage their prescription drug benefits? Can their experiences help us to better understand drug utilization by the elderly and improve the quality of care they receive?*** The Health Care Financing Administration (HCFA) has initiated research to study the way in which Medicare+Choice plans currently administer their drug benefits. The aim of the

project is to uncover best management practices with regard to improving outcomes, avoiding drug interactions, encouraging appropriate prescribing patterns, and educating beneficiaries about the medications they take.

- ***How prevalent is underinsurance by Medicare beneficiaries for prescription drugs?*** The Agency for Healthcare Research and Quality (AHRQ) has begun preliminary work to investigate the Medicare population's prescription drug coverage. They will look at the way in which different sources of coverage meet or fail to meet the needs of Medicare beneficiaries for access to needed medications.