



SOCIETY OF ACTUARIES

Article from:

Health Watch

October 2012 – Issue 70

Assessing the Impact of Cost Sharing on the Induced Demand for Prescription Drugs to Support Part D Medicare Pricing

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Medicare Part D pricing actuaries are challenged by many forecast assumptions that affect the final developed member premium. Not only are pharmacy costs forecast, but the Centers for Medicare & Medicaid Services (CMS) revenues and benchmarks must also be forecast. The multitude of Bid Pricing Tool entries, complex benefit designs and full disclosure of every assumption place a significant responsibility on the actuary. The large amount of analysis and assumptions involved in bid development and the integration of each issue further adds to the complexity.

Within all of this work is an assessment of the induced prescription drug use resulting from the cost sharing of enhanced alternative benefit designs. Many actuaries find this forecasting to be difficult to develop and support, and struggle to find a sound basis for developing induced demand factors for drug pricing. Bid desk review and audit do not allow for an explanation that assigns these factors based purely on “actuarial judgment,” but require that judgment to be supported with consideration of data and research.

Fortunately, there are studies that provide all of the necessary information to formulate prescription drug induced demand models. These studies provide a wide variety of insight and can help with the development of models that may be unique to different populations and to the cost controls of different plan sponsors and plan types.

Key Information for Developing an Induced Demand Slope

A substantial resource for induced demand information is the AARP Public Policy Institute Research Report from April 2008, titled *How Prescription Drug Use Affects Health Care Utilization and Spending by Older Americans: A Review of the Literature*, by Cindy Parks Thomas, Ph.D. (AARP Research Report). The AARP Research Report is most valuable as it summarizes the results of a wide set of studies and presents consensus findings from these studies.

The key goal of pricing for the induced demand is assessing the slope of the demand relative to the changes in cost-sharing levels. The AARP Research Report presents a consensus finding that a 10 percent increase in drug cost sharing is associated with a 1 to 6 percent decrease in drug use. This is a wide range of results, and it is important that the actuary selects the demand slope that best represents the population considered for pricing. Fortunately, the AARP Research Report provides insight to help narrow this range and select an appropriate slope.

Measuring the impact of induced demand for a population due to varying the cost-sharing amount is extremely difficult, separate from the attraction of higher utilizing members to richer benefit designs. This is mentioned in the AARP Research Report, and it is noted that not all studies have used adequate controls for these unobserved factors. This suggests that true demand for a fixed population leans to the lower side of the reported range, as the larger changes may include the effect of attracting a less healthy population.

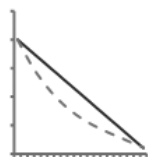
As noted in the AARP Research Report, managed care populations use drugs differently than other populations, and the effects of cost sharing may be lower than those for the other populations. This gives guidance for selecting the slope of demand for the prescription drug (PD) portion of an MA-PD

➤ AVAILABLE RESEARCH

AARP PUBLIC POLICY INSTITUTE RESEARCH REPORT



CHANDRA, GRUBER & MCKNIGHT



STUDY CAN BE INTERPRETTED SUCH THAT DEMAND ELASTICITY IS MORE LINEAR TO COPAYS THAN COINSURANCE

plan separately from the prescription drug plan only (PDP Only) plan designs.

While demand for both essential and non-essential drugs is impacted by cost-sharing levels, the non-essential drug use is more responsive to cost-sharing levels.

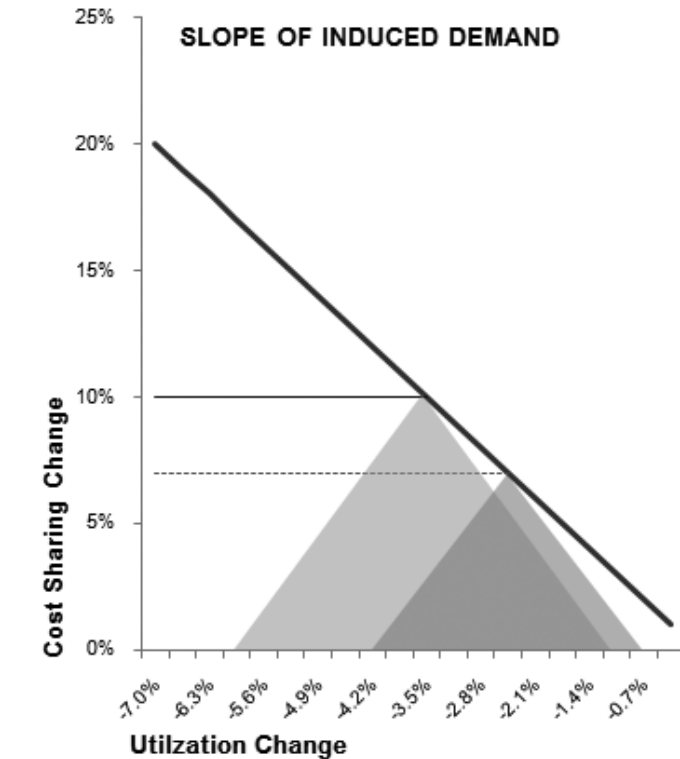
Benefit limits of all kinds decrease prescription drug use. This information is particularly important when considering the benefits, as most Part D plan designs apply only to cost below the Initial Coverage Limit (ICL).

Considerations for Developing an Induced Demand Model

The actuary will give consideration to whether induced prescription drug demand will be priced as linear with respect to a fixed dollar copay change or a fixed percent coinsurance change. This consideration has not been analyzed by any of the studies, and there does not appear to be substantial evidence that demand is more closely linked to either. The separate study *Patient Cost-Sharing, Hospitalization Offsets, and the Design of Optimal Health Insurance for the Elderly*, by Amitabh Chandra, Jonathan Gruber and Robin McKnight in March 2007, provides some data that can be used, but even this is a matter of interpretation. Each actuary's own experience, and the experience of the client, may enter into the decision regarding this assumption.

The studies find that benefit limits of any kind affect drug use. The slope of the demand curve should consider the portion of drugs that are subject to the cost-sharing benefit being evaluated. In most instances, the cost-sharing benefit is limited to the drugs applicable below the ICL. It will be important to understand the portion of total drug costs applicable to amounts below the ICL in order to develop the induced demand model.

Essential drugs have demand that is less influenced by cost sharing than non-essential drugs. The actuary must consider which drugs may be considered



essential and whether or not a reduced impact, or even no impact, should be considered for these drugs. The actuary may solicit help from the plan sponsor's pharmacist in identifying the essential drugs and understanding the potential for induced demand.

When developing factors, consideration must be given to the maximum impact to be applied for any given cost-sharing tier. The literature notes that having prescription drug coverage can lead to as much as a 20 percent increase in overall drug utilization. This provides an upper bound for demand; however, this is measured against having no insurance. Therefore, induced demand impacts measured as relative to the Defined Standard Part D benefit design should be more limited.

Separate from any alternative copay and or coinsurance structure change, there may be a change to the deductible. An induced demand impact of

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Collectively, all of this information can be used to develop an induced demand model for Part D pricing.

a deductible change must also be developed. To support this, an effective overall cost sharing of the deductible will be necessary. This can be measured as the portion of overall drug costs that fall below the deductible.

Based on the considerations and assumptions above, the actuary can produce a range of induced demand changes for copay, coinsurance and deductible benefit changes by adapting the study results of 1 to 6 percent change in utilization for each 10 percent change in cost sharing to all of these assumptions. The resulting updated range will require a final step—to select the demand slope from within this range. When making that selection, the following considerations may be applied:

- The AARP Research Report does denote that, separate from the underlying utilization of a given population, the richer benefits of a lower cost-sharing level will attract higher users, and this may be influencing the measured demand in some of the studies. The report further raises the concern that the studies have not used adequate controls for all unobserved factors. This gives a reason to consider demand at the lower range of these studies' results.
- The AARP Research Report states that managed care populations use drugs differently than others, and the effects of cost sharing may be lower for the managed care population than with other populations. This may lead to a lower selection for the PD portion of an MA-PD plan than the selection for a PDP Only plan design, as a PDP Only plan is offered to Medicare fee-for-service (FFS) members who are not a part of a managed care plan.
- Any particular plan sponsor may have a variety of drug utilization controls in place. Such controls may serve to dampen the impact to induced demand expected from reduced cost sharing.
- Consideration must be given to the availability and copayment for professional office visit coverage, as the studies indicate that having insurance for physician visits is critical to using a drug benefit.

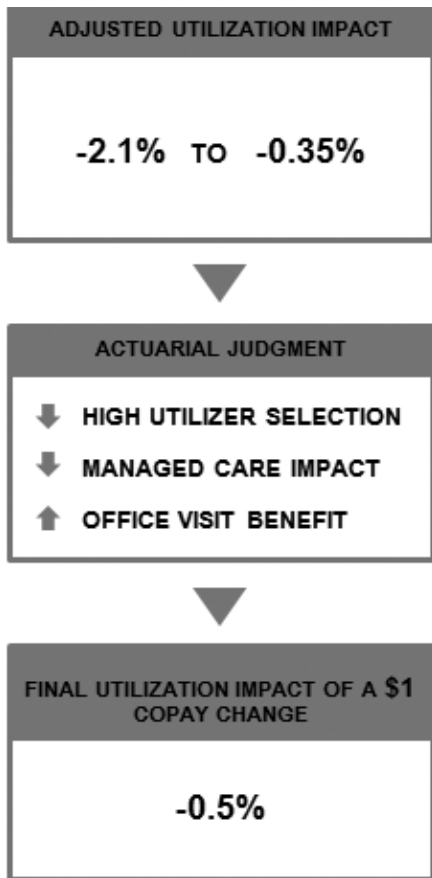
The induced demand model will be developed in a manner that integrates with the capabilities of the overall drug pricing model. For example, if the drug pricing model applies averages of drug use for each member without regard for being below and above the ICL, then developing factors that apply to only costs below the ICL will not easily integrate with the pricing model. It may be preferable to develop factors applicable to all drug costs, and those factors are developed with a level of dampening that considers there is no benefit change for drug use above the ICL.

Additional consideration for the model structure may include a model with “fixed factors” for a set of copay amounts (or coinsurance amounts). This structure would be different from defining a model which measures changes in the effective copay from that of the Defined Standard benefit and then calculates an impact to demand resulting from the “difference from” the Defined Standard benefit amount per dollar copay.

“Fixed Factor” Model—Such a model will contain a chart that has assigned factors for induced demand for each copay amount. As an example, the \$10 copay factor may be 0.950 and the \$15 copay may provide a 0.925 factor. The impact of moving from a \$15 copay to a \$10 copay would induce $0.950 / 0.925 = 1.027$ (or 2.7%) additional prescription drug use.

“Difference From” Model—Such a model would be a mathematical formula that denotes for each \$1 decrease in copay will result in, for example, 0.5 percent increase to prescription drug utilization. The impact of moving from a \$15 copay to a \$10 copay would induce $(\$15 - \$10) \times 0.5\% = 2.5\%$ additional prescription drug use.

Other than very small mathematical differences, these two model designs have structural difference from the application of the maximum induced demand change—the “fixed factors” model will limit the demand change within a defined set of copay amounts in the chart, while the “difference from” model will limit the demand change calculated from the Defined Standard benefit design.



Conclusion

There is a great amount of information available concerning the induced demand for prescription drug use resulting from cost-sharing changes. Studies available do have some shortcomings, but understanding them is useful for helping to narrow the induced demand slope ranges for pricing.

Considerations for physician office visit benefits, managed care controls, limits to total impact, benefit limits (e.g., the ICL) and impact differences for essential and non-essential drugs must be considered. All of this information plays a role in the development of induced demand.

Collectively, all of this information can be used to develop an induced demand model for Part D pricing. This model may be unique to any population, drug cost management controls and plan type.

A full copy of the Susquehanna Actuarial Consulting Informational Report, which describes in more detail the development of induced demand models, is available on our website at <http://www.sacactuaries.com/WhitePapers/Medicare%20Part%20D%20Rx%20Induced.pdf>. ■