



SOCIETY OF ACTUARIES

Article from:

# Health Watch

May 2009 – No. 61

# New SOA Research Study Evaluates Cost Impact of Drug Therapy for Crohn's Disease

by Steven C. Siegel



Steven Siegel, FSA, MAAA, is a research actuary with Society of Actuaries in Schaumburg, Ill. He can be reached at [ssiegel@soa.org](mailto:ssiegel@soa.org).

Overall, the results indicated that infliximab therapy is not associated with an overall reduction in direct health care utilization and expenditures when used in actual practice by privately insured individuals with Crohn's.

Several years ago, the Health Section issued a request for research proposals (RFP) to study the effect of a specific prescription drug on the overall medical costs and utilization for a population of patients who shared a similar medical condition. The group that developed the RFP was not as interested in the choice of the actual drug and condition to be evaluated as much as the process and methodology for undertaking such an analysis. As a result, both the specific drug and condition to be studied were deliberately left open in the RFP.

The Health Section was motivated to issue the RFP through a recommendation from an earlier effort that identified analysis of prescription drug expenses as an area where actuaries could play an important role in the national health care debate. Given the rapid increase in the cost of prescription drugs over the past decade, I imagine there are not many actuaries out there who would challenge this recommendation.

One of the proposals received in response to the RFP was from a team of researchers at the University of Wisconsin. The team included Patrick Meek, the lead researcher who later transferred to the Albany College of Pharmacy, as well as Marjorie Rosenberg and Nilay Shah. The research team proposed to compare health care utilization and expenditures between individuals with Crohn's disease who had used a prescription drug called infliximab and those who had not. The study was to be based on observational data collected during the initial years of availability of the drug. After a thorough review by a project oversight group that was recruited to evaluate the proposal, funding for the effort was enthusiastically approved.

For those unfamiliar with the condition, Crohn's is a chronic inflammatory disease of the intestines that is named after the physician who first described it in 1932. Common symptoms of Crohn's disease include abdominal pain, diarrhea and weight loss.

This is the result of the disease causing ulcerations in the lining of the small and large intestines. As well, it can adversely impact just about any region of the digestive system starting all the way up to the mouth. Listening to the firsthand experience of several friends with the condition, I can say, without hesitation, that living with it is no Sunday stroll in the park (or any other day of the week, for that matter).

Infliximab, introduced in 1998, is a biologic drug that blocks the effects of a substance involved in the inflammation seen in Crohn's disease and other autoimmune diseases. When taken by patients with Crohn's, infliximab use was related to substantial improvements in their health status, need for intensive medical management and overall quality of life. Infliximab is a central part of the treatment management of approximately 50 percent of the 650,000 people in the United States diagnosed with Crohn's who are most affected by the disease.

Using claims data from the 1999–2003 Thomson Reuters MarketScan commercial claims and encounters databases, the research team analyzed inpatient, outpatient and prescription drug claims data for individuals older than 18 years of age with a diagnosis of Crohn's. The team compared results using two primary approaches: a retrospective cohort analysis and a 12-month pre-post (before and after infliximab) analysis. To help reduce some of the data issues that are inherent in these types of analysis, the team also applied a combination of risk adjustment and propensity score methods.

Overall, the results indicated that infliximab therapy is not associated with an overall reduction in direct health care utilization and expenditures when used in actual practice by privately insured individuals with Crohn's. The study also points out some of the limitations in trying to generalize the results to other settings. But, most importantly, it helps to further the discussion about the ultimate trade-offs between the cost versus the benefit of such thera-

pies. And, as a further benefit, the methodology laid out in the study can be used as a foundation for future research in this area.

I highly encourage you to review the study and draw your own conclusions. The study can be found on the Society of Actuaries' Web site at: <http://www.soa.org/research/health/research-infliximab-therapy.aspx>.

As of this writing, the study has been submitted to a prestigious, peer-reviewed journal for publication consideration. The study may also ultimately serve as inspiration for the SOA to become involved in efforts related to exploring Comparative Effectiveness, which is a feature of the Obama administration's recent stimulus package.

I'd like to express my appreciation to the following individuals who helped to originally launch the study with their careful review of the proposal and initial recommendations: Margaret Wear, John Bertko, Kevin Dolsky, Gregory Durant, John Governale, Toby Hall and Thomas Tomczyk.

As always, I'd welcome any feedback you have on the report and thoughts for similar future studies. ■

