

DxCG is pleased to have participated in the updated SOA study, “A Comparative Analysis of Claims-Based Tools for Health Risk Assessment”. The revised study would not have been possible without sponsorship from the SOA Health Section Research Team and in particular Steven Siegel, who issued a request for proposal in 2005 to update the 2002 study. Ross Winkelman, FSA, and Syed Mehmud, both of Milliman at the time, have done an excellent job in providing a comparative snapshot of the predictive performance of participating vendors.

The new study found that DxCG models continue to demonstrate excellent predictive power for both concurrent and prospective modeling applications across a wide range of scenarios constructed by the research team.

DxCG is excited to contribute toward the ongoing development of this study and its research design. As a sponsored research project of the SOA, the report is more relevant to actuarial and underwriting applications. We would like to point out that concurrent applications such as utilization reviews, efficiency measures, and DM/CM reconciliations are equally important, and should be included in future studies. The emphasis on prospective models has a natural extension in that recalibrated models with prior costs are highlighted. The research team refers to such models as “optimized”, although they are not optimized to the extent possible if, for example, the model was calibrated to predict a client-specific outcome based on their available data and other constraints. Since recalibration or “optimization” is often infeasible or extremely costly due to constraints in data, IT, or financial and analytical resources, we believe it is more relevant to look at the top performing “offered” model results rather than the recalibrated, “optimized” results.

As the breadth and depth of predictive modeling applications reaches a larger audience, it is important to synthesize the interests of all stakeholders in health care in measuring predictive modeling performance so that a wider range of objectives may be addressed. For example, we recommend an alternate approach to analyzing results based on cost and medical condition groupings that would speak to the core interests of the disease management community. Interested readers are referred to a DxCG white paper published in direct response to the updated SOA study, available by contacting info@dxcg.com.

No user of predictive models should worship at the altar of R-Squared, MAPE or Predictive Ratios. These measures are subject to statistical errors and the characteristics of the underlying analytical data sample. While these are important and widely accepted yardsticks of model performance, one needs to consider many qualitative aspects including the software delivery platform and attendant consultative services available to interpret and implement the results.

We live in an era in which the availability of more timely and detailed electronic health care data has widened the range of suitable predictive modeling applications. Not only have models become more sophisticated, but they are utilizing sources of data that have quickly transcended the usual claims-based mode of prediction. We anticipate that future studies will consider models drawing from myriad data sources including laboratory results, electronic medical records, health risk assessments, biometric data and more. The science of prediction will continue to advance the frontier of the proportion of variation in medical costs believed to be explicable.