



Using Response Modeling in Medical Society Membership Marketing

Overview

Medical societies expend considerable resources each year to recruit nonmembers (physicians who were not members for the prior membership year). Multiple attempts may be made through several channels (e.g., mail, peer-to-peer, e-mail, telemarketing) to stress to these prospects the benefits of membership and organized medicine.

Unfortunately, as much as we hate to admit it, there are some physicians who decline to join despite all of our best marketing efforts. It makes good business sense to reduce or redirect the marketing resources expended on these individuals. Response modeling can be used to identify individuals least likely to respond, thus reducing costs while increasing response rates and maintaining membership and dues revenue objectives. RiverPoint Group in partnership with Unica® Corporation can provide the tools, implementation, and support toward this goal.

Applications of Response Modeling

Simply put, response modeling allows you to predict how a person will behave by analyzing past behavior and demographic data. You may be interested in whether someone is likely to join for a given membership year or be responsive to a particular type of communication. In practice, this application of response modeling is widely used in direct mail and marketing campaign management.

A second use of this same technique is to develop a profile of one segment versus another. For example, it is possible to develop a profile of solo versus group physicians, or surgical versus primary care physicians, based on demographic and other characteristics, and ranking which characteristics are more significant than others. This application is also useful in the case of missing data. Suppose the data identifying whether a physician is solo or group is missing for some cases. This technique can use other known data to estimate in which practice category an individual physician most likely falls.

Membership Example

Say a given medical society solicits its 30,000 nonmembers for membership and typically has an average response rate of 2%. If they randomly select 3,000 of their nonmembers for solicitation, they can expect a response of 60. If they randomly select 6,000 of their nonmembers for solicitation, they can expect a response of 120, and so on.

But, this doesn't have to be the case. Using predictive modeling, it is possible to estimate the probability of response as a function of demographics and history, then target traditional marketing toward the best prospects.

Typically, the steps followed in a predictive modeling project are as follows:

1. Historical explanatory and response data is assembled (see Appendix A for examples of explanatory data useful for medical society membership models).
2. A statistical tool is used to model past response behavior as a function of the explanatory variables using a subset of the historical data. Unica is particularly adept at this, able to estimate a large number of alternative models in a relatively short time. Objective criteria are used to select the best model.
3. The model results are validated using historical data. That is, the predicted response values from the models are compared to what actually occurred.
4. Explanatory data for the upcoming nonmember population is assembled and input into the model, which then generates a predicted response probability for each nonmember physician. These probabilities, along with a physician identifier, are stored to a dataset.
5. Physician records are then sorted by predicted response from highest to lowest and then divided into ten (roughly) equal segments. Segment 1 containing records of physicians most likely to respond and Segment 10 containing records of physicians least likely to respond.
6. Model output data is fed into a campaign management system to use in membership recruitment.

Using the above example, the table below shows some actual results of applying a response model to membership society membership data:

Segment	Population	w/o Predictive Model			With Predictive Model		
		Response Rate	Responses	Cumulative Responses	Response Rate	Responses	Cumulative Responses
1	3,000	2.00%	60	60	7.29%	219	219
2	3,000	2.00%	60	120	3.33%	100	319
3	3,000	2.00%	60	180	2.50%	75	394
4	3,000	2.00%	60	240	1.88%	56	450
5	3,000	2.00%	60	300	1.46%	44	494
6	3,000	2.00%	60	360	1.25%	38	532
7	3,000	2.00%	60	420	1.04%	31	563
8	3,000	2.00%	60	480	0.63%	19	582
9	3,000	2.00%	60	540	0.42%	13	595
10	3,000	2.00%	60	600	0.21%	5	600
Total	30,000	2.00%	600		2.00%	600	

Without the predictive model the physician records are in no particular order, thus the expected response rate is the same for each segment. However, using predictive modeling, we are able to sort the records from most to least likely to respond.

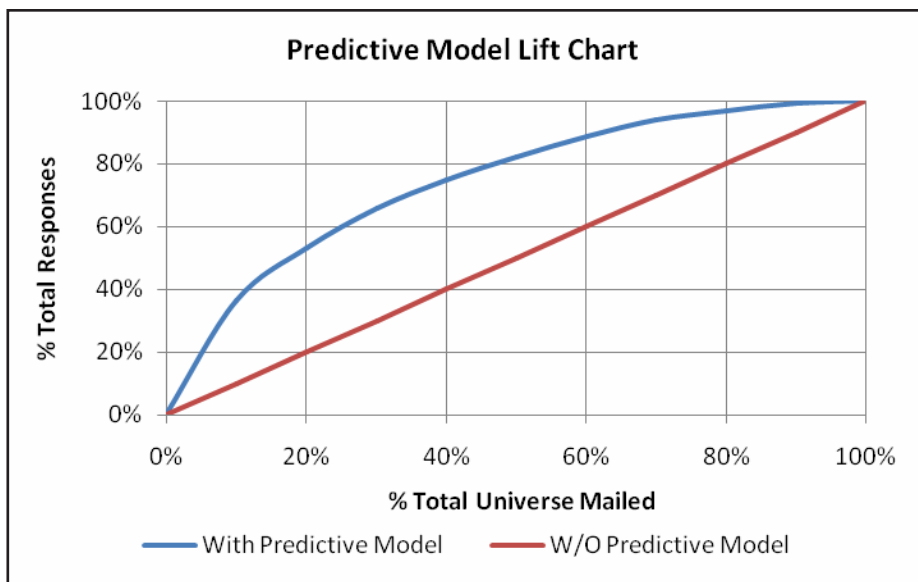
Thus the expected response rate declines from Segment 1 through Segment 10. Given an association's marketing cost and dues structure it may not make financial sense to use traditional marketing against the higher segments. With the exception of marketing to the entire universe, increased responses (and corresponding response rates) can be gained through the use of a predictive model.

In this example the association, by marketing to its best prospects as identified by a predictive model, can increase the response rate by a full percentage point. This increase in the response rate is referred to as lift.

A version of this same data is shown in the graph below. As shown by the blue line, the association can receive 89% of the total responses by marketing to only 60% of its market, properly segmented. Cost savings can then be applied to incentives targeting those least likely to respond to traditional marketing.®

Summary of Benefits

- Increased response rate
- Cost reduction
- Increased membership under a fixed marketing budget
- Demographic profiles of responders versus non-responders
- Applied business intelligence regarding missing data



RiverPoint Solution

RiverPoint can provide access to the tools and expertise needed to accurately generate a set of predicted responses for an association's membership market using the demographic, practice characteristic, and historical response data the association has available. The deliverable is a set of predicted responses for each individual the association identifies which can be incorporated into the association's membership campaign management flow, be it Unica or another platform.



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Appendix A - Useful Data in Predicting Membership Response Among Nonmembers

Please note that the data elements listed below are neither required nor exhaustive. RiverPoint understands that all societies may not have access to all this information, or may possess other useful data. The analysis will ultimately determine which data is significant.

- Total past number of years of active society membership
- Number of years since last active membership
- Purchases of society product / services
- Attendance at society meetings / conferences
- Physician / society contact history
- Contact restrictions
- Age
- Gender
- Employment (e.g., group practice)
- Type of practice (e.g., direct patient care)
- Retirement Status
- U.S. / International medical school graduate
- Specialty
- Years in practice
- Urban / rural location
- Geographic location (e.g., county or zip code)

