



SOCIETY OF ACTUARIES

**Individual and Small Group Health
Insurance Underwriting Seminar
September 18- 19, 2008**

Session # 4: Data Analysis

Valerie Lendt

SOA
Individual and Small Group Health
Underwriting Seminar
Data Analysis

Valerie A. Lendt, FSA, MAAA
Pricing & Analysis Resources, Inc.

What will we be covering?

- Why should data analysis be important to the underwriting department?
- What do most companies analyze?
- What are some other things companies should be looking at?
- How can this information be used to manage the business?

Why is data analysis important?

- A lot of analysis goes on within the actuarial areas
- Often not enough feedback across departments
- Data analysis can reveal a lot about the effectiveness of the underwriting guidelines and procedures and the appropriateness of policy provisions

What are companies analyzing?

- Overall ratios of placed, declined, closed out, withdrawn, and not taken by month
- Information on overall turnaround times by month
- Overall number of each type of requirement ordered
- Mix of business sold by such things as state, plan group, deductible, distribution system

What more can companies do?

- Placed, declined, etc.
 - underwriter
 - distribution system
 - plan
 - deductible
 - family vs. single applicant
 - group size, etc.

What more can companies do?

- Turnaround times
 - underwriter
 - distribution system
 - substandard load
 - group size, etc.

What more can companies do?

- Requirements ordered
 - age
 - plan
 - deductible
 - underwriter
 - distribution system, etc.

What more can companies do?

- Mix of business
 - age and gender
 - preferred, standard, tobacco user, substandard loads, and elimination riders
 - family size
 - zip code
 - PPO (within state), etc.

What else?

- Loss ratios
 - obviously very important, and not just to the actuaries
 - durational loss ratios can be a very good indicator of the effectiveness of your underwriting
 - by general agent or other sales grouping – are they bringing you quality business?

What else?

- Loss ratios
 - demographics
 - product
 - deductible
 - single vs. family
 - age/gender
 - with ancillary coverages vs. none
 - state/zip code grouping

What else?

- Loss ratios
 - demographics
 - can pinpoint rating weaknesses or opportunities
 - can point to areas where underwriting changes may be appropriate

What else?

- Loss ratios
 - preferred vs. standard vs. tobacco users
 - rate-ups and elimination riders vs. standard
 - distribution system
 - active vs. terminated business
 - re-writes vs. new business
 - replacing vs. non-replacing business

What else?

- Replacing vs. non-replacing business
 - issue and decline rates
 - persistency
 - mix of business
 - these statistics might give you a feel for how non-replacement business is doing before your loss ratio is credible enough to help you

What else?

- First-year claims
 - ICD9 code
 - Details of those over \$10,000

What else?

- Monthly persistency/lapse rates
 - product
 - deductible
 - age/gender group
 - family structure
 - group size
 - industry
 - standard vs. groupings of substandard

What else?

- Monthly persistency/lapse rates
 - state/zip code grouping
 - distribution system
 - rate increase size, etc.

What else?

- Lots of good information often isn't captured during the underwriting process
 - what's the experience of people with a certain condition?
 - how much should we really load for obesity?
 - what's the experience across occupations?
 - need to balance the desire to speed up the processes with the need for good information

What else?

- Misrepresentations
 - should be not just what you decided you could act on; the other cases you believe were misrepresentations could teach you a lot
 - possibly less quantitative and more qualitative
 - are certain conditions, certain geographic areas, certain products, or certain agents showing up more?

What else?

- Predictive modeling
 - risk scores are determined based on claims history (preferably 12 months or more)
 - duration
 - underwriter (year 1 claims)
 - active vs. terminated
 - agent/distribution system
 - product, etc.

What else?

- Agent quality
 - your agents have a dramatic effect on the quality of your business
 - already discussed some quality measures
 - what about discrepancies between the application and what was disclosed during the telephone interview?
 - what about rewarding quality business in some fashion?

Conclusion

- Building, running, and analyzing numerous reports can be time-consuming
- No report is going to yield a kernel of wisdom every time
- Won't always show conclusive trends
- However, information is critical to successfully managing your business

Conclusion

- Actuarial, underwriting, claims, sales, etc. all need to work together
- Sharing this information with the underwriters will help keep them focused on issues related to risk
- Getting feedback from underwriting and claims can help explain why you're seeing something and often result in a better action plan than just "changing rates"

Conclusion

- Over time you may decide certain reports aren't adding enough value and eliminate them or run them less frequently
- What about you? Does anyone want to share anything I didn't mention that they have found helpful?
- Q&A