

Report
of the
Society of Actuaries
Laboratory Tests
Survey Subcommittee

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Society of Actuaries
475 N. Martingale Rd., Ste. 800
Schaumburg, IL 60173
Phone: 847-706-3500
Fax: 847-706-3599
Web site: <http://www.soa.org>

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Results on Survey of Laboratory Testing Issues

The Committee on Life Insurance Mortality and Underwriting Surveys of the Society of Actuaries designed and sent out three surveys earlier this year. This one asked questions about companies' internal practices in regards to how laboratory tests become part of the underwriting paradigm, in particular, how changes were made, who the decision-makers are, and what support is necessary to add a test. There were 101 respondents to the survey, including a number of Canadian companies and five health insurance writers. Of the 101 individuals who responded for their companies, 73 were underwriters or head of the underwriting department, six were medical directors, and the other 22 were of other various backgrounds.

We are presenting the results of the survey as compiled by the SOA staff, along with commentary where appropriate or necessary for understanding or interpreting the results. Questions should be forwarded to Jack Luff (847-706-3571 or jluff@soa.org) at the SOA office.

Rick Bergstrom, Chairman of the Lab Testing Subcommittee

Other members:

Anna Hart, PMSI

Jeff Marks, Northwestern Mutual

Bill McDonald, MIB

Lori Morgan, State Farm

LABORATORY TESTING SURVEY REPORT

INTRODUCTION

In the last 15-20 years, laboratory testing has reshaped the world of risk selection in the life insurance industry. Essentially, this phenomenon began with the HIV epidemic and continued to evolve during the 1990's competitive term market and the proliferation of multiple preferred risk classes. Alternative collection methods such as urine and oral fluids collected by a third party (including by the agent) have also been implemented as a means to help defray upfront underwriting costs.

This survey was different than prior lab testing surveys. The focus here was not on company specific lab test limits. Instead, the purpose of this survey was to gather data on how a sampling of the life insurance industry makes decisions involving lab tests. The results shown below are based on 101 responses received in the summer of 2000.

CONCLUSION

The Chief Underwriter usually makes the decisions on lab testing (with input from the Medical Director and Pricing Actuary). These changes are driven and based on protective value studies. Other factors impact the final decision, but not to the impact of the protective value studies. Once the decision is made, it usually takes less than 6 months to implement the changes.

It is important to note that all conclusions in this report are related just to lab testing. Other requirements such as medical exams and Attending Physician Statements may yield different responses.

The specific responses below may be useful when a company is evaluating how they make lab-testing decisions. They give an overall feel as to what factors are important and who makes the decisions.

METHODOLOGY

The purpose of this survey was to gather data on how the life insurance companies make decisions involving lab tests. It was sent electronically from the SOA to 158 Chief Underwriters in summer 2000. Several weeks later, a paper version was mailed to 585 Chief Underwriters.

The SOA received 101 responses. The respondents consisted of 73 chief underwriters, 6 medical directors, and 22 people whose job title did not lend itself to categorization. Also, there were responses from several Canadian companies and several health insurance companies, but these responses were too few to either merit separate analysis or significantly impact the overall results.

The committee used two different methods to help analyze and interpret the results. One method ranked responses to the questions by how many responded to the 'high' or 'often' column. The other used a calculated column that ranked factors based on "Often Minus Rare" (or "High Minus Low"). The latter method ignores the number of responses in the middle category. Each question was subjected to both methods, and the method that demonstrated the differentiation more is shown in this report.

A few questions had a high number of N/A (either not applicable or not answered). Most often, that indicated some confusion as to what the question really wanted. These are noted in the survey details.

Following is the cover page that accompanied the survey explaining the focus. Then, each question is listed with the tabulation of the answers, along with several of the committee's observations. For several of the questions, additional points were added by respondents. These are noted in the observations, but are not definitive, as other respondents were not prompted on these items.

COVER PAGE OF SURVEY

In the last 15-20 years, laboratory tests have had a large impact on the life insurance industry. A quick historical look yields:

- Testing started in earnest at the beginning of the HIV epidemic. The serum HIV antibody test provided the insurance industry with the first necessary tool to help manage the mortality risk, especially limiting antiselection for amounts of insurance applied for in excess of \$100,000.
- The industry soon discovered the tremendous protective value of the comprehensive blood chemistry tests, such as cholesterol and other lipids, liver function tests, and PSA. This played a large role in the development of competitive term products and the proliferation of multiple preferred risk classes.
- The magnitude of testing volume and technology advancements lead to alternative collection methods such as urine and oral fluids collected by a third party (including by the agent). This fueled another round of product development and pricing refinements.

This survey is different than prior lab test surveys. The focus is not on company specific lab test limits. The purpose of this survey is to gather data on how the life insurance industry makes decisions involving lab tests. It is certainly not the intent of the survey to decide which, if any, is the appropriate method for determining testing issues. Rather, it is to inform the appropriate professional of the various factors that are currently being used in the industry at large.

The following questions apply to life insurance testing issues such as:

- Changing limits on existing lab tests;
- Evaluating new methods of collection, such as agent collected oral fluid or urine;
- Evaluating the usage of new tests such as PSA or hepatitis serology, either on a screening or a reflexive nature.

Question 1: What is usually the major driving force toward making a change in lab testing?

| | <u>Rarely</u> | <u>Sometimes</u> | <u>Often</u> | <u>Often - Rare</u> | <u>N/A</u> |
|--|---------------|------------------|--------------|---------------------|------------|
| Protective value | 1 | 29 | 71 | 70 | 0 |
| Competition's testing practices | 14 | 52 | 35 | 21 | 0 |
| Innovations in lab science (testing, technology) | 9 | 63 | 29 | 20 | 0 |
| Medical advancements | 12 | 59 | 30 | 18 | 0 |
| Impact on agent/client | 17 | 51 | 33 | 16 | 0 |
| Overall mortality trends | 14 | 56 | 30 | 16 | 1 |
| Specific product pricing (mortality, expenses) | 15 | 57 | 29 | 14 | 0 |
| Impact on sales | 26 | 50 | 25 | -1 | 0 |
| Legislative | 31 | 44 | 25 | -6 | 1 |
| Aggregate acquisition budget trends | 32 | 49 | 19 | -13 | 1 |
| Reinsurance | 43 | 42 | 16 | -27 | 0 |
| Impact on approved as applied for rates | 40 | 52 | 7 | -33 | 2 |
| Cycle time | 59 | 30 | 11 | -48 | 2 |
| Systems | 69 | 23 | 8 | -61 | 1 |
| Home office workflow | 68 | 27 | 2 | -66 | 4 |

Observations

- Protective value is overwhelmingly the most common driving force toward making a change in lab testing requirements.
- Many other factors also play a role, including the competition's practices, innovations in lab science, medical advancements, impact on agent/client, overall mortality trends, and specific product pricing.
- Cycle time, system changes and home office workflow rarely drive (or defer) changes. It is important to note that this applies just to lab testing decisions, which may have less impact on these factors than other requirements such as medical exams and Attending Physician Statements (APS).
- Other factors that have less impact are reinsurance and impact on approved as applied for rates.

Question 2: Once the decision has been made to evaluate a possible change, what factors are used and how much weight is given to each factor?

| | <u>Low</u> | <u>Medium</u> | <u>High</u> | <u>High - Low</u> | <u>N/A</u> |
|--|------------|---------------|-------------|-------------------|------------|
| Protective value | 0 | 14 | 87 | 87 | 0 |
| Impact on agent/client | 11 | 45 | 45 | 34 | 0 |
| Overall mortality trends | 7 | 52 | 41 | 34 | 1 |
| Impact on sales | 7 | 54 | 39 | 32 | 1 |
| Specific product pricing (mortality, expenses) | 12 | 54 | 35 | 23 | 0 |
| Medical advancements | 15 | 54 | 32 | 17 | 0 |
| Innovations in lab science (testing, technology) | 17 | 51 | 33 | 16 | 0 |
| Competition's testing practices | 22 | 43 | 35 | 13 | 1 |
| Legislative | 26 | 41 | 34 | 8 | 0 |
| Aggregate acquisition budget trends | 22 | 57 | 23 | 1 | 0 |
| Reinsurance | 36 | 46 | 19 | -17 | 0 |
| Impact on approved as applied for rates | 33 | 54 | 13 | -20 | 1 |
| Cycle time | 52 | 31 | 17 | -35 | 1 |
| Systems | 53 | 36 | 10 | -43 | 2 |
| Home office workflow | 57 | 31 | 12 | -45 | 1 |

Observations

- Protective value remained the most important factor, even after the decision had been made to evaluate a possible change.
- Impact on sales and impact on agent/client became more important. They joined overall mortality trends, specific product pricing, medical advancements and innovations in lab science in the second most important grouping.
- The same 5 factors were the least important as Question 1.

Question 3: If you use protective value studies (cost/benefit studies), do you do them in-house?

| | |
|-----|----|
| Yes | 44 |
| No | 36 |
| N/A | 21 |

Observations

- N/A on Question 3 meant the question was not answered. The high number of N/A's combined with the overwhelming importance of protective value factor in Questions 1 and 2 meant this question was sometimes difficult to understand.
- Fifty-five percent (44 out of 80) who use protective value studies do them in-house.

Question 4: If you use protective value studies (cost/benefit studies), what sources do you use to obtain values?

| | <u>Rarely</u> | <u>Sometimes</u> | <u>Often</u> | <u>Often - Rare</u> | <u>N/A</u> |
|-------------------------------------|---------------|------------------|--------------|---------------------|------------|
| Use published industry study | 4 | 42 | 39 | 35 | 16 |
| Get them from lab | 6 | 51 | 30 | 24 | 14 |
| Get them from your reinsurers | 6 | 51 | 29 | 23 | 15 |
| Do them in-house | 29 | 18 | 37 | 8 | 17 |
| Intuition | 39 | 29 | 14 | -25 | 19 |
| Hire someone to do a detailed study | 68 | 6 | 1 | -67 | 26 |

Observations

- This question also had a high number of N/A's, indicating some possible confusion or ignorance of the details of the procedure.
- If companies do use protective value studies, they get them most often from published industry studies, from labs or from reinsurers.
- Rarely does anyone hire someone to do a detailed study.

Question 5: If you use protective value studies, what measurement do you use?

| | <u>Yes</u> | <u>No</u> | <u>N/A</u> |
|---|------------|-----------|------------|
| Benefit to cost ratio (i.e. 10 to 1) | 51 | 19 | 31 |
| Break-even threshold (i.e. \$75,000) | 47 | 23 | 31 |
| Annual return on underwriting investment (i.e. 10%) | 32 | 31 | 38 |

Observations

- The high number of N/A's here indicate that, while the person answering the survey uses the results of the protective value studies to make decisions, someone else may do the actual calculations.
- Most respondents use the Cost/Benefit ratios and break-even thresholds. Some also calculate on ROI.
- Others measurements added by respondents were Net Savings (actuarially determined) and Sensitivity Analysis (once each).

Question 6: If you use competitive information, how do you obtain it?

| | <u>Rarely</u> | <u>Sometimes</u> | <u>Often</u> | <u>Often – Rarely</u> | <u>N/A</u> |
|--|---------------|------------------|--------------|-----------------------|------------|
| Reinsurer | 10 | 37 | 46 | 36 | 8 |
| Industry survey | 7 | 46 | 39 | 32 | 9 |
| Informal survey of selected companies | 16 | 39 | 38 | 22 | 8 |
| Agents | 53 | 29 | 9 | -44 | 10 |
| Extensive survey performed in-house | 49 | 32 | 5 | -45 | 15 |
| Broker | 58 | 22 | 6 | -52 | 15 |
| Internet (via brokers or direct companies) | 62 | 21 | 3 | -59 | 15 |

Observations

- Most respondents get their competitive information from reinsurers, industry studies, or informal survey of selected companies.
- Rarely do companies get competitive information from agents, brokers, extensive surveys performed in-house, or the Internet. The lack of Internet use was surprising. It may be due to the fact that different departments within a given company may do the web-competitive studies (which rarely focus on lab testing).
- Others sources added were discussions at industry meetings and laboratory info (once each).

Question 7: Who makes the lab test decisions and how much weight does each player have?

| | <u>Low</u> | <u>Medium</u> | <u>High</u> | <u>High – Low</u> | <u>N/A</u> |
|-----------------------------|------------|---------------|-------------|-------------------|------------|
| Chief Underwriter | 1 | 15 | 85 | 84 | 0 |
| Medical Director | 25 | 25 | 49 | 24 | 2 |
| Pricing Actuary | 19 | 35 | 41 | 22 | 6 |
| Top Management | 28 | 29 | 38 | 10 | 6 |
| Product Development Actuary | 29 | 37 | 30 | 1 | 5 |
| Experience Actuary | 44 | 28 | 20 | -24 | 9 |
| Marketing | 55 | 31 | 8 | -47 | 7 |
| Agency | 59 | 27 | 4 | -55 | 11 |
| Controller | 83 | 7 | 1 | -82 | 10 |

Observations

- The Chief Underwriter has the highest weight on making the decisions.
- Medical Directors and Pricing Actuaries were in the next grouping, but much farther down the list.
- Marketing, agency, and controllers rarely had much weight.
- Other positions added once each included VP Underwriting and Reinsurance Actuary.

Question 8: What is the hardest part of making the decision?

| | <u>Low</u> | <u>Medium</u> | <u>High</u> | <u>High – Low</u> | <u>N/A</u> |
|--|------------|---------------|-------------|-------------------|------------|
| Doing the protective value study | 11 | 37 | 46 | 35 | 7 |
| Finding resources to complete evaluation | 14 | 42 | 38 | 24 | 7 |
| Impact on budget | 16 | 51 | 28 | 12 | 6 |
| Selling to key decision makers | 24 | 48 | 24 | 0 | 5 |
| Gathering the competitive information | 19 | 59 | 18 | -1 | 5 |
| Agent acceptance | 34 | 42 | 20 | -14 | 5 |

Observations

- Doing the protective value study was the hardest part of making the decision.
- Finding resources to complete the evaluation was the second hardest part.
- The last 3 (selling to key decision-makers, gathering competitive info, and agent acceptance) may have had less impact because it is lab testing. Other underwriting requirements may increase the importance of these factors.
- One person added selling to product management and reinsurers.

Question 9: What is the usual timeline from evaluation stage decision to implementation (choose one)?

| | |
|----------------|----|
| 1-3 months | 23 |
| 4-6 months | 47 |
| 7-12 months | 19 |
| 13-18 months | 7 |
| Over 18 months | 0 |
| No answer | 5 |

Observations

- 75% of all respondent companies take 6 months or less.
- 25% take 3 months or less.
- A few take over 1 year.

Question 10: Once the decision has been made, what is the hardest part of implementing the decision?

| | <u>Low</u> | <u>Medium</u> | <u>High</u> | <u>High – Low</u> | <u>N/A</u> |
|--|------------|---------------|-------------|-------------------|------------|
| Finding system resources | 29 | 29 | 38 | 9 | 5 |
| Coordinating with other company projects | 24 | 34 | 32 | 8 | 11 |
| Training field | 26 | 43 | 28 | 2 | 4 |
| Finding budget money | 32 | 40 | 22 | -10 | 7 |
| State filing (if needed) | 35 | 34 | 20 | -15 | 12 |
| Incorporating changes in existing workflow | 45 | 44 | 9 | -36 | 3 |
| Training underwriters | 69 | 23 | 5 | -64 | 4 |

Observations

- Once the decision has been made, there is no single implementation issue that was overwhelmingly the most difficult.
- Rarely is incorporating change into existing workflow and training underwriters an issue. This may be due (once again) to lab testing vs. other underwriting requirements.
- Two people added coordinating with vendor (paramed companies).