SOCIETY OF ACTUARIES®

Mortality and Longevity

Accelerated Underwriting Practices Survey

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Accelerated Underwriting Practices Survey

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Accelerated Underwriting Practices Survey

Section 1: EXECUTIVE SUMMARY

Milliman Inc. was hired by the Society of Actuaries (SOA) to conduct a survey on accelerated underwriting (AU) practices. Two surveys were created and sent to the life insurance industry, one to direct companies about their AU practices and one to reinsurers about their opinions on AU programs. Responses were received through early 2019.

Twenty-eight direct companies with AU programs and five reinsurers responded to the surveys.

1.1 DIRECT COMPANY SURVEY

1.1.1   PRACTICES

The AU programs of the respondents began as early as 2011, but over 70% of the responding companies began their programs in 2017 or 2018.

The most common minimum and maximum age limits for AU programs were 18 and 60, respectively, and the most common minimum and maximum face amounts were $100,000 and $1 million, respectively.

Term was the most common product used for AU programs, followed by equity indexed and whole life.

Companies were split about 50/50 between using one or two algorithms to determine who would qualify to have their requirements waived and what risk class they qualified for. The most common tools used in the algorithms were prescription histories, Medical Information Bureau (MIB), motor vehicle records (MVR), electronic applications and tele-underwriting interviews.

Mortality assumptions for policies when the requirements were waived were about 1%–10% higher than on fully underwritten business prior to the AU programs and early experience was in the same range (i.e., typically 1%–10% higher). Note, however, that this did vary, even outside of this range, on a company-by-company basis.

Certain expenses were generally taken into account in the development process of the AU program, including the medical/paramedical exam, fluid testing, additional data sources and underwriter's time, while other expenses were typically not considered, including the design of the program, implementation of the program and development of the algorithm.

Most but not all companies used random holdouts. Random holdouts are used to determine if the company is missing any key underwriting issues in their algorithms to waive the underwriting requirements. The most common percentage held out was 5%, or one in 20 cases.

Another risk-mitigation tool is post-issue audits. Again, most but not all companies conduct post-issue audits. The top reasons for doing post-issue audits include determining the magnitude and percentage of cases where an impairment was not caught and determining the weaknesses in the underwriting process. "Magnitude of cases" refers to the sizes of the policies. The percentages of cases targeted and actually audited varied considerably company to company.

While information on the findings from the random holdouts and post-issue audits was limited, the results for cases that were assessed to be the same as what was found under the AU program averaged 75% for random holdouts and 80% for post-issue audits. The next biggest category was placement in a risk class

that was better than the applicant would have been placed in given traditional full underwriting. This category averaged 15% for random holdouts and 10% for post-issue audits. But, as mentioned, these results vary on a company-by-company basis.

The top five changes to AU programs that the companies are either currently making or they plan to make are shown below. In addition, companies were asked whether the changes were new additions, an update or another type of change. They were also asked whether the changes were more restrictive, less restrictive or an update or clarification. These responses are also summarized below. Note that the numbers in parenthesis represent the number of companies which responded to the specific change.

- **Algorithms (16 companies).** Seven of the 16 are new additions and six of the 16 are less restrictive.
- **Face amount limits (14).** Six of the 14 are new additions and 12 of the 14 are less restrictive. On each of the new additions, they had a maximum limit but no minimum limit so they were likely indicating the addition of a lower limit.
- **The way information is collected on the application (9).** Six of the nine are new additions and there was an even split between more and less restrictive.
- **Data sources (9).** Eight of the nine are new additions and there was a fairly even split between more and less restrictive.
- **Random holdouts (8).** Three of the eight are new additions and there was an even split between more and less restrictive.

The top five challenges to designing or developing the AU program were Information Technology (IT)/Systems to implement, creating the algorithm, the design of the program itself, catching smoking liars and agent buy-in. "Smoker liars" is the term used for smokers who do not admit they are smokers on the application.

1.1.2 PBR

The majority of respondents with AU programs have or will soon perform a valuation for blocks of policies issued using AU processes under the National Association of Insurance Commissioners' *Valuation Manual 20: Requirements for Principle-Based Reserves for Life Products* (VM-20) guidelines. These companies have designed or begun to think through the VM-20 mortality assumption requirements.

Aggregation for VM-20 credibility

- Fifteen of the 28 companies with AU programs will be aggregating the AU policies with traditionally underwritten policies for purposes of VM-20 credibility determination. For those companies that are aggregating policies, credibility levels will be 51% or higher.
- Eight companies were still in the planning stages at the time of the survey and unsure whether they will aggregate policies.
- Two will not be aggregating for credibility.

VM-20 anticipated mortality experience

- For most companies in this survey, the VM-20 anticipated mortality experience assumption will be the same as for traditionally underwritten business, potentially with a mortality scalar designed to reflect any misclassification risks associated with the AU program.

Supporting rationale for aggregation

- For those aggregating policies for credibility, a retrospective demonstration will be the chosen method of supporting the decision to aggregate AU-issued policies with traditionally underwritten policies.
- Reinsurer data and actuarial studies are equally popular, after the retrospective demonstration.

VM-20 mortality margins

- These are expected to be the same as for traditionally underwritten business. Most companies are planning to increase the prescribed margin to reflect the relative uncertainty associated with the new AU program. Depending on how the company develops the mortality assumption, this additional margin may be applied to only the AU-issued policies or to all policies in the block.

VM-20 industry mortality tables

- When mortality rates need to be graded into an industry relative risk (RR) mortality table, most of the respondents expected to be using the same or higher industry table as for traditionally underwritten business.
- None of these companies expects to use a lower RR table for this business.

VM-20 mortality assumption development

- A company's internal staff and potentially its reinsurance partner(s) are most likely to be those involved in the development and review of the company's VM-20 mortality assumptions.
- They have used a variety of sources to establish this assumption, the most likely candidates being a company's own internal experience data not written through AU programs (i.e., traditionally underwritten policy experience), retrospective demonstrations that demonstrate mortality expectations for the AU policies as compared to those issued through traditional underwriting programs and reinsurance data.

1.2 REINSURER SURVEY

1.2.1 OPINIONS

Expected mortality varied between low and high mortality clients.

- Compared to fully underwritten mortality experience, mortality experience when the underwriting requirements were waived ranged from 1%–10% lower to more than 20% up to 50% higher.
- When the underwriting requirements were not waived, the range was more than 10% up to 20% lower to more than 20% up to 50% higher.

The top four components of an AU program that have the most impact on mortality were:

- Application data
- Federal Credit Reporting Agency (FCRA) approved data
- Random holdout program
- Qualification percentage goal

The top six tools for a successful AU program were:

- Prescription histories
- Credit data
- MIB
- Electronic health records
- Random holdouts
- MVR

On average, 85%-92% of the AU information/data received by the reinsurers from the direct companies was either average or excellent quality. One reinsurer commented that the quality was improving quickly.

The reinsurers provided tips for a successful AU program. These included:

- It is easier to start conservative and expand/liberalize if prudent than to start aggressively and later find it necessary to scale back.
- Be open to new data available but also cognizant of regulatory restrictions.
- Importance of communication and training as you develop the program.
- Experience monitoring is key.
- Be ready and able to take action ASAP once you see issues emerge, as opposed to waiting for credible claims experience to start rolling in.

1.2.2. PBR

Four of the five participating reinsurers provided responses to the PBR section of the survey. While none of these reinsurers had yet performed a VM-20 valuation for any blocks of policies, all four were expecting to be implementing VM-20 soon or were in the planning stages.

Aggregation for VM-20 credibility

- Two of the four will be aggregating AU policies with traditionally underwritten policies for purposes of VM-20 credibility determination, one will not be aggregating and one was unsure.

VM-20 anticipated mortality experience

- Two of four companies reported that the company mortality assumption will not be the same as for traditionally underwritten business because the AU is treated as a stand-alone segment.

Supporting rationale for aggregation

- Most frequently cited by reinsurers as the data source in support of aggregating is their own reinsurer data around the AU program.
- Retrospective demonstration and actuarial studies were also cited by reinsurers as important sources in support of aggregation.

VM-20 mortality margins

- For AU-issued policies, the VM-20 mortality margin for two reinsurers will be the same as for traditionally underwritten business and for the two reinsurers where the AU-issued policies are in a stand-alone segment, the margin will be determined based on the credibility of that segment and deemed sufficient (no additional margin applied).

VM-20 industry mortality tables

- Whether aggregated or not, the industry mortality table these reinsurers expect to use will be either the same as for traditionally underwritten business or higher.

VM-20 mortality assumption development

- As for reinsurers, it is the primarily the internal staff that will develop the VM-20 mortality assumption, using sources consisting of: retrospective demonstrations, the reinsurer's own internal experience data for AU-issued policies, the reinsurer's own internal experience data for traditionally underwritten policies and, lastly, auxiliary studies that demonstrate mortality expectations for AU-issued policies versus traditionally underwritten policies.

Section 2: INTRODUCTION

Milliman Inc. was hired by the Society of Actuaries (SOA) to conduct a survey on industry accelerated underwriting (AU) practices. It was decided to send a survey on practices to direct companies (see Appendix B) and a survey on opinions related to accelerated underwriting to reinsurers (see Appendix C). The surveys were emailed by Milliman on Jan. 4, 2019, to both direct companies and reinsurers, based on a distribution list from the SOA.

Twenty-eight companies with AU programs and five reinsurers responded to the survey. Five additional companies responded to the first two questions of the direct company survey to indicate their potential plans for introducing a future AU program for a possible future mortality study. The 28 participating companies and five reinsurers, just described, are shown in Appendix A.

Responses were based on practices between Jan. 1, 2017, and Sept. 30, 2018. The survey did not extend to the end of 2018 because results would likely not be available for the fourth quarter of 2018 with the early January survey request.

Each survey had two sections. The first section had questions on practices (direct company survey) or opinions (reinsurance company survey). The second section had questions related to principle-based reserves (PBR) practices.

For many of the questions, comments were provided. When they were similar, we summarized them. However, in most instances, we provided the comments exactly as they were received. With either approach, we encourage the reader to review these comments because we believe, in many instances, they provide additional insights and understanding to the survey answers.

The survey attempted to avoid questions on proprietary items, but to ask enough to provide meaningful information. The remainder of the report will include the following:

- Section 3: Why Accelerated Underwriting?
- Section 4: Direct Company—AU Practices
- Section 5: Direct Company—PBR Practices
- Section 6: Reinsurer—AU Opinions
- Section 7: Reinsurer—PBR Practices
- Section 8: Concluding Thoughts

Section 3: WHY ACCELERATED UNDERWRITING?

Traditional underwriting for many companies has historically taken four to six weeks to complete. It is also considered intrusive, with the visit of a paramedical examiner and collection of blood and urine samples.

To combat these issues, and for other reasons, companies introduced guaranteed issue (GI) or simplified issue (SI) underwriting. Guaranteed issue underwriting provides coverage as long as they met certain minimal criteria (e.g., under a certain age, actively at work, not terminally ill). Simplified issue underwriting generally involves less underwriting questions than fully underwritten but more than GI, less third-party evidence and limited amounts of coverage. Because of this more limited underwriting and less knowledge about the health of the applicant, higher than traditional fully underwritten premiums are charged.

With AU, algorithms using items such as the full application and information from third parties used in the full underwriting process are utilized to determine if the company needs additional evidence on the applicant in order to issue the policy. This approach allows the waiving of fluid and exam requirements, creating both a faster issue process and being less intrusive, i.e., without the traditional fluids or physical examination. In addition, companies believe the algorithms can produce applicants with mortality expectations comparable to those who went through full/traditional underwriting, therefore allowing them to pay the same premium as a comparable applicant who went through the full/traditional underwriting process.

Figure 1 shows this pictorially.

Figure 1
EVOLUTION OF ACCELLERATED UNDERWRITING
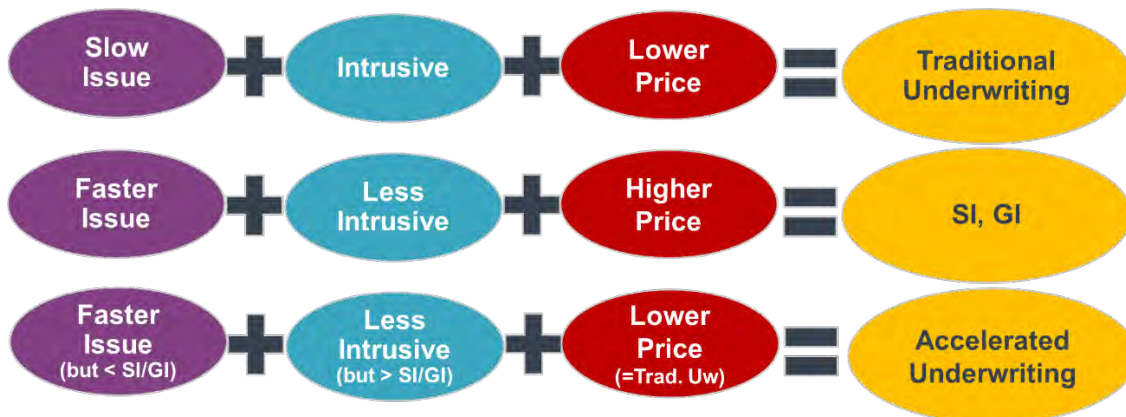
AU is based on a fully underwritten product. The definition used in the survey was "any fully underwritten life insurance program that allows some applicants to forgo having a medical or paramedical exam and providing fluids, if they meet certain requirements and/or meet a certain pre-determined threshold." This paper will explain the requirements and thresholds for qualification along with many other aspects of the AU programs that were in effect in early 2019.

Section 4: DIRECT COMPANY—AU PRACTICES

The first section of the survey contained 19 questions on direct company general AU practices, but many of the questions had multiple parts. The results will be covered in the order of the survey.

4.1 PROGRAM CHARACTERISTICS AND LIMITATIONS

Question 1a asked for the month and year the AU program began, whether the program was still in test mode, the number of AU eligible applications written between Jan. 1, 2017, and Sept. 30, 2018, and issue age, face amount and risk class limits. A number of companies indicated that they had made some changes in their AU program and were providing us with the current requirements.

Companies were asked to provide information on multiple AU programs and to indicate which program was the most prevalent. Since only one company provided information on more than one program, all answers in this survey are based on the most prevalent (or only) AU program provided by each company.

AU eligible applications were defined as applications for life insurance where:

1. an AU program is available,
2. age and amount requirements for the AU program are met,
3. an agent opts into the program either explicitly or implicitly by going through a specific process (such as a tele-interview), and
4. an agent cannot opt out of the program once the application has been submitted.

The purpose was to only count applications that could potentially have their underwriting requirements waived. Two examples were provided in the survey instructions.

Twenty-two companies provided the number of AU eligible applications and the number ranged from one and two (i.e., programs just getting started) to about 55,000. Fourteen companies indicated the number of AU applications were under 10,000 and eight companies indicated greater than 10,000.

Figure 2 summarizes the year AU programs began along with how many are still in test mode. Beginning AU programs in test mode is a common practice, but not done by all companies. Some companies may test their AU program in some states and/or with a limited number of distribution channels to get a better understanding of whether the program will perform as they expect it to, before introducing it on a nationwide basis.

Figure 2

YEAR AU PROGRAM INTRODUCED AND WHETHER THE PROGRAM IS STILL IN TEST MODE

Year Program Began	Number of Companies	Still in Test Mode
2011	1	
2014	2	
2015	1	
2016	4	
2017	10	3
2018	10	2
Total	**28**	**5**

One company introduced their AU program as early as 2011 while over 70% introduced their programs in 2017 or 2018. Five of the newer programs were still in test mode.

Figure 3 shows a summary of the minimum and maximum age limits for AU programs. All 28 companies responded.

Figure 3

MINIMUM AND MAXIMUM AGE LIMITS

Minimum Age		Maximum Age	
Measure	Age	Measure	Age
Low	18 (22 co.*)	Low	39 (3 co.)
Average	19.7	Average	55.4
High	50	High	85
Most common	18 (22 co.)	Most common	60 (9 co.)

* Note that "co." indicates the number of companies that responded to that particular item. This will be used in this and all subsequent figures.

The minimum age limits ranged from 18 to 50. For the company that indicated 50 as a minimum age, that was the minimum age for the product.

The maximum age limits ranged from 39 to 85, with the most common maximum age limit being 60, by nine (or over 30%) of the companies.

Figure 4 summarizes the minimum and maximum face amount limits for AU programs. All 28 companies responded.

Figure 4

MINIMUM AND MAXIMUM FACE AMOUNT LIMITS

Minimum Face Amount		Maximum Face Amount	
Measure	Face Amount	Measure	Face Amount
Low	$0 (11 co.)*	Low	$300,000 (2 co.)
Average	$52,500	Average	826,800
High	$150,000	High	$2.5 million
Most common	$100,000 (12 co.)	Most common	$1 million (12 co.)

* While some companies indicated $0 was their minimum, if a company indicated that they had no minimum face amount limit, it was coded as $0.

The minimum face amount limits ranged from $0 to $150,000, with the most common minimum being $100,000 (over 40% of the respondents).

The maximum face amount limit ranged from $300,000 to $2.5 million, with the most common maximum face amount limit being $1 million (again, by over 40% of the respondents).

Figure 5 shows a summary of the risk class limitations. AU programs can limit the AU applicants to fewer risk classes than are available on the fully underwritten program underlying the AU program. For example, a company may have four nonsmoker risk classes on their fully underwritten program, but only allow the best preferred nonsmoker risk class for their AU program.

Figure 5

RISK CLASS LIMITATIONS

Risk Class Limitations	Nonsmoker	Smoker
Available for all risk classes (i.e., no restrictions)	21	18
Available for limited number of risk classes	7	1
Not available for any risk classes	0	9

Three-quarters of the participants had no restrictions on their nonsmoker risk classes and 64% had no restrictions on their smoker risk classes. Among the companies that had nonsmoker risk class limitations, all allowed at least one of the nonsmoker risk classes in their AU program. For the companies that limited their smoker risk classes from their AU programs, one company limited one or more, but not all of the

smoker risk classes while almost one-third of the companies did not allow the smoking risk classes in their AU program.

4.2 AU PRODUCTS AND DISTRIBUTION CHANNELS

Question 1b asked about the products involved in the AU programs. Figure 6 summarizes the results. All 28 companies responded to this question and had between one (13 companies) and six (one company) products.

Figure 6

PRODUCTS USED FOR AU PROGRAMS

Product	Number of Companies
Term	23
Equity indexed life	11
Whole life (participating/nonparticipating)	10
Universal life (other than UL with secondary guarantees)	9
ULSG	8
Variable life (includes VUL)	6
Interest sensitive whole life	1

Term was the most commonly used product for AU, by over 80% of the respondents. The next most-used products were equity indexed life (11), whole life (10), universal life (UL) other than UL with secondary guarantees (ULSG) (nine) and ULSG (eight).

Four companies indicated that their AU program was available on all products or all single life products. One company indicated their AU program was available on an increasing premium term product.

Question 1c asked about the distribution channels used for AU programs. Figure 7 summarizes the results. All 28 companies responded with between one (15 companies) and seven (one company) distribution channels.

Figure 7

DISTRIBUTION CHANNELS USED IN AU PROGRAMS

Distribution Channel	Number of Companies
Independent agent/broker	17
Career/captive	16
Broker/dealer/wire house	7
Direct marketing/internet	6
Personal producing general agent (PPGA)	6
Financial planner	5
Bank/financial institution	4
Multiple line	3

Independent agent/broker (over 60%) and career/captive (57%) were the most commonly used distribution channels. All other distribution channels were used by 25% or less of the participating companies.

One company that uses four distribution channels indicated that an AU program is "available in all channels with varying degrees of adoption."

4.3 AU ELIGIBLE APPLICATIONS

Question 1d asked about the percentage of all fully underwritten life insurance applications that were AU eligible. Figure 8 shows the results. The percentages shown in Figure 8 are the same that were provided in

the actual question (i.e., these were not summarized in this way after receiving the responses). Twenty-seven companies responded to this question.

Figure 8

AU ELIGIBLE APPLICATIONS AS A PERCENTAGE OF FULLY UNDERWRITTEN LIFE INSURANCE APPLICATIONS

AU Eligible Applications	
Percentage of All Applications	Number of Companies
1%–25%	10
26%–40%	6
41%–60%	8
61%–75%	1
76%–100%	2

Almost 90% of the participants indicated that the percentage of AU eligible applications were 1%–25% (10 companies), 26%–40% (six companies) or 41%–60% (eight companies).

It is possible these percentages may grow in the future as companies become more comfortable with their AU programs. A few of the reasons given that the percentages were not higher included:

- The percentage was based on all applications while AU was not available for some of products/processes (two companies).
- Repeat customers pushed the amount of coverage over $1 million, so they were no longer eligible.
- Juvenile applications brought the percentage down.
- Percentage varied by product.

Another reason the percentages may not have been higher is the number of agents opting out of the AU program.

The remainder of the questions were based on the most prevalent AU program.

Question 2 asked about the percentage of AU eligible applications that the company expected to have waived and the percentage that were actually waived. Results were requested split between issue ages through 50 and issue ages over 50, when the company could provide the breakdown, as well as overall.

Figure 9 shows the results. Note that some companies were able to provide the breakdown and also completed the "all ages" result, while others only provided the all ages result. The number of respondents to each is shown. All 28 companies responded to this question.

Figure 9

PERCENTAGE OF AU ELIGIBLE POLICIES EXPECTED TO BE WAIVED AND ACTUALLY WAIVED

% AU Eligible Expected to be Waived				% AU Eligible Actually Waived			
Measure	IA ≤ 50	IA > 50	All Ages	Range	IA ≤ 50	IA > 50	All Ages
Average	41.5%	41.8%	46.0%	1%–25%	7	5	9
Number of responses	24	14	27	26%–50%	11	5	8
Most common	40% (3 co.)	10%, 15% and 50% (2 co.)	40% and 50% (3 co.)	51%–75%	5	2	6
				76%–100%	2	2	4
				Average	39.7%	37.9%	43.5%

The average percentage expected to be waived was 41.5% for issue ages through 50, 41.8% for issue ages greater than 50 and 46.0% for all ages. The all ages category is made up of a combination of companies providing the breakdown by age groups and those that couldn't provide this breakdown; this is the reason the percentage for all ages is not between the percentages for the two age groups.

The percentage actually waived was about 2%–3% less than expected, as determined by the averages in Figure 9. The companies indicating an actual percentage waived of 50% or less was over 70% of all companies providing responses split by issue age and over 60% of all companies responding for all ages.

Six companies indicated they could not split by age because of limits either above or below issue age 50.

The difference between the percentage of AU applications actually waived and what was expected to be waived could be driven by items such as the mix of business actually applying being different than what was expected, companies limiting the percentage because they are not yet comfortable with this process or other reasons. Of the companies with AU programs beginning in 2017 or 2018, 70% indicated percentages actually waived of 50% or lower while AU programs beginning earlier than 2017 were split 50/50 between percentages actually waived of 50% or lower and percentages actually waived of over 50%.

4.4 ALGORITHMS

Question 3 asked about the number of algorithms a company used in their AU program.

An algorithm was defined as the process that involves the use of rule sets/tools/calculations to determine who qualifies to have their underwriting requirements waived and, if they are waived, what risk class they qualify for.

Figure 10 shows the results. All 28 companies responded.

Figure 10

NUMBER OF ALGORITHMS USED IN AU PROGRAMS

Number of Algorithms	Number of Companies
1	14
2	13
>2	1

Results were split pretty evenly between using one and two algorithms. When one algorithm is used, it is used to both determine who qualifies to have their requirements waived and the risk class they qualify for. Those that use two algorithms have one which determines whether the requirements are waived and another to determine the risk class. The company that indicated they used more than two algorithms said the extra algorithms are used for knockout purposes.

One company that had only one algorithm indicated that, if an applicant qualified to have their requirements waived, they would be placed in the best risk class. This company limited their AU risk classes to only the nonsmoker best preferred risk class.

Question 4 asked about those involved in the creation of the algorithm(s). Results are shown in Figure 11.

Figure 11

RESOURCES INVOLVED WITH CREATING THE ALGORITHM

Resource	Number of Companies
Internal underwriting	24
Internal actuary	23
Reinsurer	16
Internal data scientist	12
Vendor	7
Consultant	5

All 28 companies responded with between one (three companies) and five (two companies) resources, with the most common number of resources being three or four (eight companies). Internal underwriting

(24) and internal actuary (23) were the two most common resources used. The reinsurer was also used by more than half of the companies and internal data scientists were used by over 40% of the companies.

Question 5 asked about the tools used in the algorithms. This was split between algorithms to waive requirements and algorithms to determine the risk class. Figure 12 summarizes the results.

Figure 12
TOOLS USED IN THE ALGORITHMS

Tool	Algorithm			
	Waive Requirements		Determine Risk Class	
	Number of Companies	Percentage	Number of Companies	Percentage
Prescription histories	24	92%	23	96%
MIB	24	92	20	83
MVR	22	85	24	100
Electronic application	21	81	20	83
Tele-underwriting interview	19	73	20	83
Credit data	18	69	9	38
ID authentication	11	42	4	17
Consumer data	10	38	5	24
Paper application	9	35	10	42
ID verification	9	35	3	13
Propensity to smoke model	1	4	0	0
Other tools/write-ins				
Public record	2	8	1	4
Prior underwriting decisions	1	4	1	4
Vendor model risk factors	1	4	1	4
Oher insurance coverage	1	4	0	0
Previous internal applications	1	4	0	0
Proprietary matrix	0	0	1	4
Total respondents	26	100%	24	100%

All 28 companies responded to this question, but 26 companies responded to waiving the requirements and 24 responded to determining the risk class.

Both algorithms had the same top five tools, but not in the same rank order. For waiving the requirements, prescription histories and MIB were used by 92% of the respondents, followed by MVR (85%), electronic application (81%) and tele-underwriting interview (73%). For determining the risk class, all respondents indicating using MVR, followed by prescription histories (96%) and MIB, electronic application and tele-underwriting interview (all at 83%). MIB means MIB Inc.'s checking service and MVR represents motor vehicle records.

Some other tools to point out are credit data, consumer data and a propensity to smoke model. Credit data was used by 69% of those with an algorithm to waive requirements and 38% of those with an algorithm to determine the risk class, consumer data was used by 38% and 21% of the companies and a propensity to smoke model was only used by one company in their algorithm to waive requirements.

In addition, there were a number of write-ins, including, for example, using prior decisions, coverage and applications.

4.5 MORTALITY AND LAPSE EXPERIENCE

Question 6 had several parts regarding mortality/pricing experience.

Question 6a asked companies to compare the pricing assumptions for the policies that have their requirements waived to that of policies which did not have the requirements waived (including random holdouts), (i.e., companies were asked to provide the ratio of the pricing assumptions for polices that were accelerated to the pricing assumptions for policies which were not accelerated). This was asked about separately for the best preferred nonsmoker risk class and all risk classes.

Random holdouts were defined as where a company decides to put an applicant, who has qualified to have their requirements waived, through full underwriting. There are multiple reasons random holdouts are used, but generally it is so a company can learn more about how well they are assessing the applicants for whom they are waiving the requirements.

Figure 13 shows the results.

Figure 13

COMPARISON OF MORTALITY PRICING ASSUMPTIONS BETWEEN WAIVED, UNWAIVED UNDERWRITING REQUIREMENTS

Waived Assumption Was:	Best Preferred Nonsmoker Risk Class	All Risk Classes
>10% lower	0	0
1%–10% lower	1	2
The same	6	6
1%–10% higher	13	13
>10% higher	7	4
Don't know	0	1

Twenty-seven companies responded for best preferred nonsmoker risk class and 26 responded for all risk classes. Note that the two companies which did not respond to the all risk class question both indicated they only offer the AU program on their best preferred nonsmoker risk class.

About half indicated their pricing assumptions for when the underwriting requirements were waived would be 1%–10% higher than when the requirements were not waived for both the best preferred nonsmoker risk class and all risk classes. Most of the other responses were either having the same expectation or having the assumptions for when the requirements were waived greater than 10% higher, again for both the best preferred nonsmoker risk class and all risk classes. Most companies provided the same response for both the best preferred nonsmoker risk class and all risk classes.

One company commented that some risk classes are expected to have worse mortality because the better risks from that risk class have been selected for the AU program and put in a better risk class.

Question 6b asked for the number of contestable and noncontestable claims that were paid, pending and rescinded between Jan. 1, 2017, and Sept. 30, 2018. Only five companies responded with very limited data so we are not able to show the results. About half of the companies indicated it was too early to have experience on this.

Question 6c requested information on how the mortality experience compared to pricing assumptions (used in 6a) for both the policies that have had the requirements waived and those which didn't have the requirements waived (including random holdouts). Figure 14 shows the results.

Figure 14

COMPARISON OF MORTALITY EXPERIENCE AND PRICING ASSUMPTIONS

Experience Was:	When Requirements Waived	When Requirements Not Waived
>10% lower	0	0
1%–10% lower	1	1
The same	2	7
1%–10% higher	3	0
>10% higher	4	2
Don't know	14	14

Twenty-four companies responded to both, with almost 60% indicating they did not know. For both when the requirements were waived and when they were not waived, the range of responses was from 1%–10% lower to greater than 10% higher. For when the requirements were waived, the average was 1%–10% higher while 70% of those that responded to when the requirements were not waived indicated their experience was the same as their assumptions.

More than half of the companies indicated it was too early to know.

Question 7 asked about lapse assumptions, again broken into several parts.

Question 7a asked for a comparison between the lapse assumptions for when the requirements were waived and when the requirements were not waived (including random holdouts). Information for the best and second best preferred nonsmoker classes for durations 1, 2, 3, 4 and 5 was requested.

No companies provided numerical answers. Some responded that they did not know or that it was too early to tell. However, seven companies provided written comments, with six indicating the lapse assumptions were the same and one indicating the lapse assumptions were lower for policies where the requirements were waived.

Question 7b requested the number of lapses over the period Jan. 1, 2017, and Sept. 30, 2018 for the male best preferred risk class durations 1–2, the male best preferred risk class durations 3+, all risk classes durations 1–2 and all risk classes durations 3+. We asked for this information primarily to determine the credibility of the responses in question 7c.

Ten companies were able to respond for durations 1–2 while only three companies were able to respond for durations 3+. Therefore, only the responses for durations 1–2 are provided; these are summarized in Figure 15.

Figure 15

NUMBER OF DURATION 1–2 AU PROGRAM LAPSES

Measure	Best Preferred Nonsmoker Risk Class	All Risk Classes
Low	2	2 (2 co.)
Average	60.3	457.7
High	250	2,946

For the male best preferred nonsmoker class, the number of lapses ranged from two to 250, with an average of 60. For all risk classes, the number of lapses ranged from two to almost 3,000, with an average of 458.

Question 7c requested information on how actual lapses on policies where the requirements were waived compared to what was expected for these policies and to actual experience on policies that were fully underwritten (including random holdouts). Data for durations 1, 2, 3, 4 and 5 were requested.

Five companies provided numerical answers for duration 1. Compared to what was expected, four companies indicated lapse rates for when the requirements were waived were lower and one indicated the lapse rates were higher. Compared to fully underwritten experience, three companies indicated lapse rates were lower and two indicated lapse rates were higher. In addition, one company wrote in that lapse rates were the same. Most companies indicated it was too early to know.

4.6 INCOMPLETE, WITHDRAWN, NOT TAKEN EXPERIENCE

Question 8 attempted to determine how incomplete, withdrawn and not taken applications changed for AU programs.

The definitions provided were:

- **Incomplete.** Applicant did not provide enough information for the algorithm/underwriter to make a decision (the case usually is changed to incomplete after a waiting period).
- **Withdrawn.** The applicant withdraws their application either pre or post the underwriting decision.
- **Not taken.** The applicant receives the policy but opts not to sign it or surrenders during the free look period. The latter might be difficult for companies to retrieve since it often resides in the in-force Admin system rather than the New Business system.

Results are shown in Figure 16, 17 and 18 for incomplete, withdrawn and not taken, respectively. Note that four companies could not divide the results between incomplete and withdrawn and one couldn't divide the results between incomplete, withdrawn and not taken. In each of these instances, the total provided was divided equally between the categories.

Figure 16

PERCENTAGE OF INCOMPLETE APPLICATIONS BEFORE AND AFTER INTRODUCING THE AU PROGRAM

Measure	% of Fully Underwritten Business Prior to AU	% When Not Waived	% When Waived
Low	1.7%	1%	0.5%
Average	7.1%	7.6%	4.0%
High	14.1%	23.3%	9% (2 co.)
Median	6.0%	6.5%	3.2%

Sixteen companies responded. Focusing on the average, although the median has similar results, there is a higher incomplete percentage for applications when requirements are not waived (7.6%) and lower incomplete percentage for applications when the requirements are waived (4.0%) than for fully underwritten applications prior to the AU program (7.1%).

We would have thought the incomplete percentage would have been lower for both waived and not waived because this is at the point prior to a decision being made. It is difficult to say whether this is the true result due to the limited responses, a possible misunderstanding of definitions or (and most likely) due to our spreading of the total percentages given among the three categories.

Figure 17

PERCENTAGE OF WITHDRAWN APPLICATIONS BEFORE AND AFTER INTRODUCING THE AU PROGRAM

Measure	% of Fully Underwritten Business Prior to AU	% When Not Waived	% When Waived
Low	1.7%	1.7%	0.5%
Average	6.6%	6.9%	3.8%
High	13.2%	18.8%	9.8%
Median	6.5%	6.9%	3.5%

Sixteen companies responded. Similar to the incomplete percentages in Figure 16, for the average, there is a higher withdrawn percentage for applications when requirements are not waived (6.9%) and lower withdrawn percentage for applications when the requirements are waived (3.8%) than for fully underwritten applications prior to the AU program (6.6%).

Directionally, this appears to make sense as those who do not qualify to have their requirements waived may be more disappointed with this and more likely to withdraw. And those who do qualify to have their requirements waived may be pleased, even more so that they qualified. Therefore, while we cannot say whether the magnitude of the differences is reasonable, directionally it is what we would have expected.

Figure 18

PERCENTAGE OF NOT TAKEN APPLICATIONS BEFORE AND AFTER INTRODUCING THE AU PROGRAM

Measure	% of Fully Underwritten Business Prior to AU	% When Not Waived	% When Waived
Low	0.8%	0.6%	0.5%
Average	8.8%	8.6%	5.8%
High	30%	54%	29%
Median	7.8%	6.0%	3.5%

Fifteen companies responded. Again, focusing on averages, there is a lower not taken percentage both for applications when requirements are not waived (8.6%) and for applications when the requirements are waived (5.8%), than for fully underwritten applications prior to the AU program (8.8%).

One item to point out on this is that the percentage of not takens when the requirements are waived is non-zero. There are several possible explanations for this, including the applicant may not have gotten the risk class they were hoping for. We checked the companies that only allowed the AU program for their best preferred class; only one of these companies provided not taken percentages split for the three actions and this company had a non-zero not taken rate. Another possible explanation would be that sometimes needs, desires or the ability to pay changes from the start of the application process.

4.7 EXPENSES

Question 9 asked about AU program expenses and was split into two parts.

Question 9a asked whether specific expenses were considered in the development of the AU program.

Figure 19 shows the results.

Figure 19

AU EXPENSES CONSIDERED IN THE DEVELOPMENT PROCESS

Expense	Considered	Not Considered
Medical/paramedical exam	25	2
Fluid testing	25	2
Additional data sources	24	3
Underwriters' time	20	7
Design of program	4	22
Implementation of program	4	22
Development of algorithm	3	23

All 28 companies responded, but one company only responded to the request for other expenses not included in the list. Each row adds up to either 26 or 27. Where it only adds up to 26, this is because one company indicated they did not know on a particular expense.

The expenses most often included in the development of the company's AU program were medical/paramedical exam and fluid testing (93% of the respondents), additional data sources (89%) and the underwriter's time (74%). In addition to the expenses listed in the survey, there were five write-ins.

These were:

- Cost of using third-party models
- Fee per applicant
- Reinsurance
- Tele-underwriting expense
- Value of fewer not takens

Expenses that were generally not considered were the development of the algorithm (88%) and design and implementation of the program (85% each).

There were three write-in comments:

- Some of these expenses will be added into the next assumption development cycle.
- The program was developed by a consulting company and a fee per applicant is charged.
- Program development and implementation are part of corporate overhead and spread to all products through dividends.

Part of the reason for this question was to see how many companies took into account the costs of designing and implementing the program as well as developing the algorithm.

Question 9b asked whether the cost of the development of the AU program was amortized. Three companies indicated they amortized these expenses, 21 indicated they did not amortize them and four indicated they did not know.

4.7 RANDOM HOLDOUTS AND POST-ISSUE AUDITS

Question 10 asked about the volume of random holdouts and post-issue audits.

Random holdouts were defined in Section 4.5.

Post-issue audits were defined as when an insurance company collects additional information on the applicant after the policy has been issued (e.g., an attending physician statement, or APS) to help determine if they missed any important information when they waived the underwriting requirements for that applicant.

Figures 20 and 21 summarize the results for random holdouts.

Figure 20
NUMBER OF POLICIES RANDOMLY HELDOUT

Number of Cases Held Out	Number of Companies
None	8
1–99	4
100–999	11
1,000+	1
Do not keep track of	1
Do not know	2

Twenty-seven companies responded, with over 40% in the 100–999 range and 30% indicating they did not randomly holdout any cases.

The one company that did not complete the table in Figure 20 indicated they are planning to introduce random holdouts.

The rate of random holdouts was also asked about. Figure 21 summarizes this.

Figure 21
RANDOM HOLDOUTS—PERCENTAGE HELD OUT

Measure	Percentage Held Out
Low	0.5%
Average	5.9%
High	11%
Most common	5% (5 co.)

Eleven companies responded, with the percentage being held out ranging from 0.5% to 11%. Five percent, or one in every 20 policies, was the most common percentage held out, by one-third of the responding companies.

Other comments on random holdouts included:

- Two companies made a similar comment indicating they are planning to do random holdouts.
- One company answered none and indicated they do not have a formal random holdout process, but they study all cases that just miss acceleration due to the model score or rules.
- One company indicated their random holdout percentage was low because a low percentage of their applicants qualify to have their requirements waived and the denominator in the calculation was based all AU eligible policies.
- One company indicated they are putting the cases where the agent sends the paramedical information with the application through full underwriting and using this instead of both random holdouts and post-issue audits.

The results for post-issue audits are split into those targeted vs. those that were actually completed because sometimes post-issue audits cannot be completed. This can be due to missing a signature, the unavailability of an APS or other reasons.

Figures 22 and 23 summarize the results. Figure 22 shows the number of companies that both target and complete post-issue audits, split by the number of cases.

Figure 22
POST-ISSUE CASES TARGETED AND ACTUALLY AUDITED

Number of Cases Targeted	Number of Companies	Number of Cases Audited	Number of Companies
None	11	None	12
1–99	1	1–99	1
100–999	6	100–999	7
1,000+	3	1,000+	1
Do not keep track of	3	Do not keep track of	3
Do not know	3	Do not know	3

Twenty-seven companies responded, with 41% indicating they do not target any AU policies for a post-issue audit and 44% indicating they do not do a post-issue audit for any AU policies. For those that do post-issue audits, 38% indicated targeting 100–999 policies and 47% indicated they audited 100–999 policies.

The one company that did not complete the table in Figure 22 indicated they do not do post-issue audits.

Figure 23 shows the percentage of cases targeted for post-issue audits, the percentage of cases actually audited and the percentage of the audited to targeted cases.

Figure 23

PERCENTAGE OF POST-ISSUE AUDITED CASES TARGETED, ACTUALLY AUDITED AND THE RATIO OF
ACTUALLY AUDITED TO TARGETED

Percentage Targeted	Percentage Audited	Percentage of Targeted That was Audited
2%	1%	50%
5%	2%	40%
5%	5%	100%
6%	2.5%	42%
7.5%	7.5%	100%
10%	9%	90%
15%	15%	100%
16%	0%	0%
20%	10%	50%
100%	52%	52%
Averages		
18.7%	10.4%	69%

Ten companies responded to this question. Individual company responses are shown in Figure 23 and
summarized in Figure 24. Three companies audited all cases they targeted and one company didn't audit
any of the cases they targeted. Half of the companies audited 40%–52% of the cases they targeted.

Figure 24

SUMMARY OF POST-ISSUE AUDITED CASES TARGETED, ACTUALLY AUDITED *AND* THE RATIO OF ACTUALLY
AUDITED TO TARGETED (10 COMPANIES)

Measure	Percentage Targeted	Percentage Audited	Percentage of Targeted that was Audited
Low	2%	0%	0%
Average	18.7%	10.4%	69.0%
High	100%	52%	100% (3)
Most common	5% (2)	None were common	100% (3)

Comments regarding post-issue audits included:

- One other company (besides the one mentioned earlier) indicated they do not do post-issue audits.
- Another company indicated they found post-issue audits highly problematic on many fronts.
- One company indicated they were developing a program.
- One company indicated it was too soon to have results.
- One company indicated they only do post-issue audits on cases where they don't have to bug the
  customer for a wet signature.

Question 11 asked about positive and negative findings from the random holdouts and post-issue audits.

Positive findings included:

- Better risk class
- As expected

Negative findings included:

- Worse risk class
- Applicant was found to be a smoker when they indicated nonsmoker
- Substandard
- Decline

Many companies couldn't answer this question because their business was too new and some could not split their answers between thecategories. First, we decided to show only results where there were at least 1,000 applications. Second, while we show the responses below, to calculate averages by category, we only used the results where the companies were able to break out their answers by the categories requested.

Figure 25 shows the answers provided from 11 companies that met the parameters for random holdouts and Figure 26 shows the answers from eight companies that met the parameters for post-issue audits.

Figure 25

FINDINGS FROM RANDOM HOLDOUTS WITH AT LEAST 1,000 AU ELIGIBLE POLICIES (11 COMPANIES)

Positive Findings			Negative Findings				
Better Than Expected Risk Class	As Expected	Total	Worse Risk Class	Smoker	Sub-Standard	Decline	Total
0%	96%	96%	1.8%	1.4%	0.1%	0.7%	4%
2%	94%	96%	4%	0%	0.1%	0%	4%
–	–	95%	–	–	–	–	5%
7.7%	84.6%	92.3%	7.6%	1%	0%	0%	8.6%
0%	82%	82%	15%	0.7%	0.3%	2%	18%
0%	80%	80%	10%	0%	10%	0%	20%
0%	79%	79%	17%	2.5%	0.5%	0.5%	21%
15%	64%	79%	17%	0.5%	2.5%	1%	21%
27%	52%	79%	15%	6%	0%	0%	21%
3%	70%	73%	27%	0%	0%	0%	27%
8%	48%	56%	42%	0.7%	0.7%	0.7%	44.1%
Averages							
6.3%	75.0%		15.6%	1.3%	1.4%	0.5%	

The companies are ordered by the total positive findings, from highest (96%) to lowest (56%). The positive findings from 10 companies averaged 75% for as expected and 6% for a better than expected risk class. Based on follow-up calls with companies, we learned that some companies only allowed their best risk class in the AU program, resulting in a 0% for the better risk class category. Others confirmed that so far in their testing, no applicant was found to have been in a better risk class through the random holdout process. While we did not receive this response and since we were not able to confirm with each company, another possibility for the 0% in the better risk class category is that companies do not go back and check this as long as the applicant should have been issued a policy in the standard or preferred risk classes.

The largest negative finding category was a worse risk class, averaging about 16%. The other negative findings all averaged below 2%, substandard (1.4%), smoking finding (1.3%) and declines (0.5%), from highest to lowest. We were surprised by how low the smoking finding was, given an industry concern about this (as seen in an upcoming question on the ranking of concerns about these programs). We have also seen some industry statistics, outside of this project, not specifically related to AU programs, but that also indicated smoking should be coming in higher.

Figure 26
FINDINGS FROM POST-ISSUE AUDITS WITH AT LEAST 1,000 AU ELIGIBLE POLICIES (8 COMPANIES)

Positive Findings			Negative Findings				
Better Than Expected Risk Class	As Expected	Total	Worse Risk Class	Smoker	Sub-Standard	Decline	Total
–	–	99%	–	–	–	–	1%
0%	98.2%	98.2%	0.7%	0%	0%	1.1%	1.8%
1%	96%	97%	3%	0%	0%	0%	3%
0%	90%	90%	8%	1%	1%	0%	10%
–	–	90%	–	–	–	–	10%
–	–	89%	9%	0.5%	1%	0.5%	11%
0%	73%	73%	–	–	–	–	27%
15%	43%	58%	28%	3%	10%	2%	43%
Averages							
3.2%	80.0%		9.7%	0.9%	2.4%	0.7%	

Eight companies contributed data to the post-issue audit findings, but only five companies were able to provide positive and negative findings in detail. One company indicated, for example, that they did not keep track of better risk class changes. Also, different companies contributed to the positive findings than the negative findings so the sum of the averages does not equal 100%. With the limited data and the inconsistency in reporting among the companies, readers should be cautious in the use of these results. Plus, the results may or may not be consistent with your own company's business.

The positive findings averaged 80% for as expected and 3% for a better than expected risk class. The largest negative finding was again a worse risk class at 10%. Substandard came in at 2% and both the smoker and decline findings were less than 1%.

Comments provided by companies for Question 11 included:

- We [are] just starting performing post-issue audits, so we do not have any data yet from the process.
- No data yet on random holdouts.
- No post-issue audits.
- We do not do post-issue audits.
- We have information available for post-issue audits but have yet to complete any.
- We did not find any in worst class, we did have one withdrawal, so were unable to fully underwrite.
- We have very few of either, so caution should be used when interpreting results.
- We are not [doing] holdouts or audits, but our testing from cases being submitted with parameds have aligned with our expectations.
- Had less than five cases that had material misrep[resentation]; they are not included in the table because we rescinded them. Even if they were included, they would round to 0%.
- We do not keep track of the cases where the customer was given a preferred [rating] but may have qualified for preferred plus with stretch or wellness credits. Most of the "Worse Risk Class" are standard non-tobacco, some of which may have been improved to preferred with stretch and wellness credits.
- Assumed that "Worse Risk Class" should exclude smoker substandards and declines and "Issue in Aggregate" meant the total of those two.
- We assumed "Better" referred to cases where the AU decision was better than the "traditional/non waived requirements" decision and "Worse Risk Class" referred to cases where we saw a more conservative AU decision.
- Most worst classes were one class "less preferred"; one Table B found, [but] no declines or missed smokers.

- 12% withdrew/postponed their applications or applications were closed due to lack of full underwriting requirements once selected as a random holdout.
- Smoker group also includes misses on policy flat extras (e.g., for avocations). Another group not identified here is the group who otherwise would have dropped out of the underwriting process but would have been approved through accelerated underwriting.
- Aggregate random holdout data through 1/31/19.

In summary, many companies indicated they either did not conduct random holdouts or post-issue audits or it was too soon to provide statistics. Also, others provided clarifying comments to their submissions.

While this information is limited and represents averages, we decided to estimate what the extra mortality might be on AU policies if the percentage findings on random holdouts and post-issue audits were true. To do this, we first increased each of the average percentages for the post-issue audits in the last row of Figure 26 by 3% (i.e., multiplied by 1.03) to get to an overall total of 100%. We assumed as expected would be 100% mortality, 25% better (or 75%) for a better risk class, 25% worse (or 125%) for a worse risk class, 200% for smokers, Table 4 (or 200%) for substandard and Table 20 (or 600%) for declines since declines typically start at Table 16, depending on the issue age and other factors. Figure 27 shows the results. We urge extreme caution in using the results of this analysis and want to also emphasize that actual results will vary by company.

Figure 27

ESTIMATE OF EXTRA MORTALITY FOR AU BASED ON AVERAGE OF RANDOM HOLDOUT AND POST-ISSUE AUDIT FINDINGS

Findings	Better Than Expected Risk Class	As Expected	Worse Risk Class	Smoker	Sub-Standard	Decline	Total
Mortality estimate	75%	100%	125%	200%	200%	600%	−
Random holdouts	6.3%	75.0%	15.6%	1.3%	1.4%	0.5%	1.076
Post-issue audits	3.3%	82.4%	10.0%	0.9%	2.5%	0.7%	1.084

Multiplying the percentages by the estimated value of each category indicates that the extra mortality would be about 8% for both the random holdout and post-issue audit findings to date. The intent of this exercise was not to determine the underlying mortality of AU programs, but rather to see what the extra mortality (from traditional/fully underwritten policies) might be if some broad averages based on minimal data were used as a rough average. Another consideration on this is that while an APS may make a finding on an AU policy, it may also have made the same finding on an audit of a traditional/fully underwritten policy if the APS had not been originally ordered on the traditional policy either. In other words, there would be no extra mortality in these situations. There was no attempt to quantify this in the calculations for Figure 27.

4.8 TRACKING AND REPORTING OF REASONS CASES ARE NOT WAIVED

Question 12 asked about whether companies kept track of the reason and/or source on cases where the applicant did not qualify to have their requirements waived. It also asked if this information was provided to the applicant and/or agent.

Figure 28 shows the results. Twenty-six companies responded to the first question and 25 responded to the second question.

Figure 28

FOR CASES THAT DO NOT QUALIFY TO HAVE REQUIREMENTS WAIVED, DO YOU:

Keep Track of the Reason Why and/or Source?			Provide the Information to the Applicant and/or Agent?		
	Reason	Source		Reason	Source
Yes	23	21	Yes	6	6
No	3	3	No	19	9
% Yes	88%	88%	% Yes	24%	35%
Total	26	24	Total	25	17

Of the responding companies, 88% indicated they retained both the reason and source on those that did not qualify to have their requirements waived. However, only 24% of the companies disclosed the reason and 35% of the companies disclosed the source to the applicant and/or agent.

Comments included:

- We track the number not meeting eligibility to receive an insurance score based on age or coverage amount (including recent issue amounts). And we track the number not achieving a passing score. I don't believe that we're keeping any data on those where further info is requested based on the other non-medical sources (i.e., tele-underwriting interview, MIB, Rx history).
- [For a company that saved the information, but did not disclose it, they indicated the information saved was the] predictive model score.
- [For a company that saved the information, but did not disclose it, they indicated they] will provide to applicant/agent upon request.
- [For a company that saved the information, but did not disclose it, they indicated they] don't provide option of "choosing" accelerated underwriting.
- [For a company that saved the information and disclosed it, they indicated] it's limited, but [they] do try and capture high level info on why and source of triage.
- [For a company that saved the information, but did not disclose it, they indicated they] do not communicate reason for not accelerating other than to say "we do not have enough information to make an underwriting decision, therefore, we cannot waive requirements." Reasons and sources are not directly applicable depending on the model type used.
- Some information is shared with the applicant, but not the agent, such as Rx records.
- We let the applicant and/or agent know that they have been declined due to their prescription drug history. Although, the applicant can go through the consulting company (who built the AU algorithm) to receive their Rx history that was input into the algorithm to come up with the results.
- We provide a high level reason to the agent, not the specific reason.
- [For a company that indicated they do not save the information or disclose it, they indicated that] all of the input data is stored in a database and monitored in aggregate, but [they] do not routinely examine the reasons an individual does not qualify.

Question 13 asked for the top three reasons a post-issue audit is conducted.

Figure 29 shows the results. The weighted score gives three points for a top reason, two points for a second reason and one point for a third reason.

Figure 29

TOP THREE REASONS FOR CONDUCTING A POST-ISSUE AUDIT

Reason	Rank			
	1	2	3	Weighted Rank
Determine magnitude of cases that slipped through	6	3	0	21
Determine weaknesses in underwriting process	3	2	8	21
Determine % of cases that slipped through	2	4	2	16
Determine if applicant smokes	2	1	1	9
Be able to quickly catch errors and make changes	0	2	1	5
Other companies do it	1	0	0	3

Fourteen companies responded with two companies providing only their top reasons.

The top two weighted ranks (tied at 21) were determine magnitude of cases that slipped through and determine weaknesses in underwriting process. Note that the first one received almost half of the first-place votes while the second had 13 of the 14 companies choosing it as a reason. One company that chose the second response indicated it was "less so the weakness, but more so to find opportunities to improve and strengthen the program."

"Magnitude of the cases" refers to the face amount of the cases and "slipped through" indicates where the applicant had an impairment that was not caught.

Another comment received was "primary reason is to validate our assumptions. These are the components of that reason."

The next highest weighted ranks were determine the percentage of cases that slipped through (16), determine if applicant smokes (nine) and be able to quickly catch errors and make changes (five). Note that the other choices are also very important to this process, but we believe this last item is also important and were surprised it did not receive more votes.

The last vote getter was other companies do it, which one company indicated was a top choice. The company that responded to this was one of the companies which only provided a top answer.

All choices provided received at least one vote and there were not any write-in items. The comments included those discussed above and a few about not doing post-issue audits and two companies indicating that they only do MIB Plan F follow-up. This service alerts member companies to any new applicant information submitted by another member company for two years from the original checking service.

Question 14 asked about the tools used for the post-issue audit.

Figure 30 shows the results.

Figure 30
TOOLS USED TO CONDUCT POST-ISSUE AUDITS

Tool	Number of Companies
APS	11
MIB Plan F follow-up	6
Prescription histories	5
Inspection report	1
MIB	1
MVR	1
Consumer data	0
Credit data	0
Identification check	0
Telephonic follow-up with insured	0
Other tool (write-in): Consulting company	1

Fifteen companies responded with between one (six companies) and four (one company) tools used for post-issue audits.

The most prevalent tool used for conducting post-issue audits, by 11 of the 15 companies responding, was the APS. Other tools used included MIB Plan F follow-up (six), prescription histories (five) and inspection report, MIB checking service and MVR (each indicated by one company, but not the same company). Consulting company was the one write-in, by one company. There was also a comment that "we get many of these as part of the normal underwriting process."

Other items on the list that did not receive votes were consumer data, credit data, identification check and telephonic follow-up with insured.

Question 15 had three parts.

Question 15a inquired about what the company does when the post-issue audit finds that the case should have been declined. Figure 31 shows the responses.

Figure 31
IF A POST-ISSUE AUDIT FINDS THAT THE POLICY SHOULD HAVE BEEN DECLINED

Do you rescind the policy?	
Answer	Number of Companies
Yes, in all circumstances	1
Yes, in some circumstances*	13
Never	0

* 2 companies indicated they are currently reviewing their policy

Fourteen companies responded. All but one of the companies indicated they would rescind the policy in some circumstances. Two of these companies indicated they are currently reviewing their policy. The other company also indicated they would rescind the policy, but not in all circumstances.

Comments included:

- We are still defining post-issue audit procedures.
- We are currently reviewing our policy. For now, I'd say we rescind when there is material misrepresentation.
- Have not encountered yet, but we are prepared to rescind where warranted.
- Review case by case.

- We would attempt to decline but it would depend on the strength of the case and our legal opinion's recommendation.
- If application question or model is flawed, we wouldn't rescind.

4.8 RECISSIONS, MATERIAL NONDISCLOSURE AND MISREPRENTATION and FRAUD

Question 15b asked for the reasons the company would rescind a policy under the AU program. Figure 32 shows the responses.

Figure 32

REASONS FOR RESCINDING A POLICY UNDER AN AU PROGRAM

Will you rescind a policy under your AU program for:	
Reason	Number of Companies
Material misrepresentation	22
Material nondisclosure	17
Other reasons	0
Not applicable, we never rescind	2

Twenty-four companies responded. Twenty-two indicated they would rescind for material misrepresentation and 17 indicated they would rescind for material nondisclosure. Two companies indicated they would rescind for the same reasons as fully underwritten business/regular underwriting. One of these companies answered question 15b and one did not.

Two companies indicated that they never rescind. These companies did not answer question 15a because they do not have post-issue audit programs and question 15a was asking specifically about that.

Question 15c asked how the company thought misrepresentation and fraud on their AU programs would compare to that on traditional programs. Figure 33 shows the results.

Figure 33

COMPARISON OF MATERIAL NONDISCLOSURE, MATERIAL MISREPRESENTATION *AND* FRAUD RATES BETWEEN AU, TRADITIONAL PROGRAMS

Level	Do you expect the following to be less, the same or more than on your traditional programs?		
	Material Nondisclosure	Material Misrepresentation	Fraud
Less*	1	1	1
Same	9	7	14
More**	11	12	4
Number of Companies	21	20	19

* The company that indicated less nondisclosure and misrepresentation did so because they have a different underwriting approach for AU.
** Six companies indicated there may be slightly more nondisclosure, but it shouldn't be significant.

Twenty-one companies responded on material nondisclosure, 20 responded on material misrepresentation and 19 responded on fraud.

More than half of the companies indicated there would be more material nondisclosure and material misrepresentation on their AU programs than on their traditional programs. Six of these companies indicated they thought it may be slightly more, but nothing significant. Among the other less than half of the companies, all but one indicated that they thought the prevalence would be about the same.

Almost three-fourths of the companies indicated they thought fraud would be about the same on the AU programs as on the traditional programs. All but one of the remaining companies indicated they thought fraud would be higher on the AU programs.

One company indicated they thought all misrepresentation and fraud would be lower on the AU program. They indicated this was their response because of the underwriting approach on their AU program.

The following comments were provided:

- We believe that material misrepresentation and nondisclosure would be slightly higher, which is why we perform post-issue audits. For fraud, we have extra protection through third-party data to identify that the person says who they say they are and we feel fraud would not be significantly higher on AU business.
- Logically there can be some, but between the completeness of our tele-underwriting interviews and Rx history and a captive multiline field force (no rate shopping by the agent), we expect the impact to be fairly small and commensurate with the additional mortality assumed.
- Given our market and that the majority of policies are sold by financial advisors, we expect slightly higher to similar material nondisclosure/misrepresentation.
- We expect more attempts to get a better risk class by not disclosing all information.
- Mostly concerned with and monitoring smoking nondisclosure.
- AU is strictly tele-interview with medical professionals. The nondisclosure and misrepresentation are significantly lower than the paramedical collected information.
- It is more difficult to catch misrepresentations by AU policies, but we expect AU policyholders to be healthier and have fewer conditions to misrepresent, so we are unsure if the AU applicants will have more or less misrepresentation.
- We don't allow "opting in" to AU—all age/amount eligible apps are considered for acceleration.
- We have a new application process that we are investigating for differences in disclosure.

4.9 PRODUCT FILING

Question 16 asked whether the company filed their application to allow for flexibility (i.e., not having to refile for changes). Figure 34 shows the results.

Figure 34

FILING FOR FLEXIBILITY

Do you file your AU application to allow for flexibility (i.e., not having to refile for changes)?	
Answer	Number of Companies
Yes, as much as we could	12
Yes, to a limited extent	5
No	8

Twenty-five companies responded. Almost half indicated yes, as much as we could. The other responses were yes, to a limited extent (five) and no (eight).

Comments included:

- We have not yet made application changes.
- No changes to application, just changes to rates.
- Reflexive questions are filed as supporting documents and when changes occur to that question set, only an informational filing is required.
- The application doesn't really vary much—just the timing of if/when paramedical exam and fluids are ordered. But we generally file with a good amount of flexibility to make changes to the app without refiling.
- Yes, as much as we could.
- Our AU process leverages our standard fully underwritten application.
- Same application as for fully underwritten (four companies).

4.10   PROGRAM CHANGES AND CHALLENGES

Question 17 asked about current and planned changes to the AU program.

This question had a number of components to it. Three specific items were asked about. Note that these letter abbreviations (C/P, A/D/O and M/L/U) described below are used in Figure 35 to allow the information to fit in one table. Figure 35 shows the detailed responses.

- In 2018, whether each of a long list of items had been recently changed (i.e., in 2017 or 2018) (C), or is currently being changed or there are plans to change it (P)
- Whether the change was or will be a new addition (A), deletion (D) or other change (O)
- Whether the change was or will be more restrictive (M), less restrictive (L) or an update or clarification (U)

Before explaining the results in Figure 35, it should be pointed out that ideally the sum of the numbers within each of three sections for every item should be the same. When this isn't true, it is because one or more companies did not provide answers for each of the sections. For example, with algorithm, change/plan and addition/deletion/other sum to 16, while more/less restrictive/update sums to 15. Therefore, one company that responded to the first two questions on their current or planned changes regarding their algorithm(s) did not respond to whether the change was more or less restrictive or an update.

Staying with algorithm, this figure shows that eight companies indicated that they had recently (in 2017 or 2018) completed changes to their algorithm(s) and eight more companies were currently changing or planned to change their algorithm(s).

The figure also indicates that seven of these changes or planned changes were additions and nine were other types of changes (i.e., modifications). No company indicated they were deleting their algorithms.

Finally, the figure shows that one company was making their algorithm more restrictive, six companies were making their algorithm less restrictive and eight companies were updating their algorithms (i.e., that there were both less and more restrictive elements or the person completing the survey did not know whether they were more or less restrictive). With this last thought in mind, that is likely why one company did not respond to this question (i.e., they did not know if the changes were more or less restrictive).

Figure 35 sorts the results from the most to least number of company changes or planned changes.

Figure 35

CURRENT OR PLANNED CHANGES TO AU PROGRAMS

Item	Changed/Plan		Addition/Deletion/Other			More/Less Restrictive/Update		
	C	P	A	D	O	M	L	U
Algorithm	8	8	7	0	9	1	6	8
Face amount limits	3	10	10	0	4	0	12	1
Way information collected for application	4	5	6	1	2	2	2	4
Data sources	3	6	8	1	0	3	2	5
Random holdouts	3	5	3	1	4	4	4	0
Issue age limits	3	4	6	0	2	0	6	1
Application information used	2	5	5	0	2	0	1	5
Prescription histories	4	2	3	0	2	2	2	1
Risk classes that can qualify for waiver	1	5	5	0	1	0	6	0
Vendor score(s)	4	1	1	0	4	0	4	1
Post-issue audits	2	3	2	1	2	3	2	0
Product	2	3	5	0	0	0	4	1
Instant decision	1	4	5	0	0	0	3	1
Distribution channel	3	1	4	0	0	0	3	1
Credit data	2	2	2	1	1	1	1	2
Propensity to smoke model	0	4	3	1	0	3	0	1
Consumer data	1	2	2	1	0	0	1	2
MIB	1	1	1	1	0	0	1	1
MVR	1	1	1	0	1	1	0	1
Identification check	0	2	1	0	1	0	1	1
Claims/rescission practices	0	1	1	0	0	1	0	0

Figure 35 allows the reader to see the most common items that have either recently been changed or that are currently being or planned to be changed.

The following bullets further summarize this information. The parts of the change that stand out are included.

- **Algorithm (16 companies).** Seven of the 16 are additions and six of the 16 are less restrictive.
- **Face amount limits (14).** Six of the 14 are new additions and 12 of the 14 are less restrictive. On each of the new additions, they had a maximum limit but no minimum limit so they were likely indicating the addition of a lower limit.
- **The way information is collected on the application (nine).** Six of the nine are additions and there was a fairly even split between more and less restrictive.
- **Data sources (nine).** Eight of the nine are additions and there was a fairly even split between more and less restrictive.
- **Random holdouts (eight).** Three of the eight are additions and there was a fairly even split between more and less restrictive.
- **Issue age limits (seven).** Six of the seven are additions and six of the seven are less restrictive.
- **Application information used (seven).** Five of the seven are additions.
- **Prescription histories (six).** Three of the six are additions and there is an even split between more and less restrictive changes.
- **Risk classes that can qualify for waiver (six).** Five of the six are additions and all six are less restrictive.
- **Vender score(s) (five).** Four of the five are less restrictive.
- **Post-issue audits (five).** Two of the five are additions, one is a deletion and there was a fairly even split between more and less restrictive.
- **Product (five).** All five are additions and four of the five are less restrictive.
- **Instant decision (five).** All five are additions and three of the five are less restrictive.

There were a few comments provided:

- The new program should yield similar throughput but will use more info to be more targeted.
- Random holdout reduced from 10% to 5%.
- We are considering developing a smoker model but do not have a definitive plan in place.

Question 18 asked companies to rank the five biggest challenges in designing/developing the AU program.

Figure 36 summarizes the results. As before, the weighted rank was derived by applying five points for a first-place vote, four for second, three for third, two for fourth and one for fifth.

Figure 36

TOP 5 CHALLENGES TO DESIGNING/DEVELOPING THE AU PROGRAM

Challenge	Rank					
	1	2	3	4	5	Weighted Rank
IT/system to implement	3	1	7	2	3	47
Creating algorithm	3	2	3	6	1	45
Design of program	3	5	1	2	0	42
Catching smoking liars	5	2	1	1	1	39
Agent buy-in	3	3	1	0	2	32
Determining mortality assumptions	2	1	3	2	1	28
Assumption setting	2	2	1	0	0	21
Management buy-in	0	1	4	0	4	20
Ensuring mortality is close to expected	2	1	1	1	0	19
Catching liars/clean-sheeters	0	1	2	4	0	18
Deciding what data to use	1	2	1	0	1	17
Internal underwriter buy-in	1	2	0	0	2	15
Emerging data sources	1	0	1	1	1	11
Deciding what vendor to use	0	0	1	2	3	10
IT/system to manage/monitor	0	0	0	4	2	10
Other internal stakeholder buy-in	0	2	0	0	0	8
Write-in: Filing and approval of new application	1	0	0	0	0	5
Write-in: Updating preferred criteria	0	1	0	0	0	4
Internal actuarial buy-in	0	1	0	0	0	4
Reinsurer buy-in	0	0	0	1	2	4
Rescissions from post-issue audit findings	0	0	0	1	1	3
Vendor buy-in	0	0	0	1	0	2
Random holdouts	0	0	0	0	2	2
Post-issue audits	0	0	0	0	1	1
Determining lapse assumptions	0	0	0	0	0	0

The top five challenges to designing or developing an AU program were IT/systems to implement (47), creating an algorithm (45), design of the program (42), catching smoking liars (39) and agent buy-in (32), the only challenges with a weighted rank higher than 30. It/systems to implement also had the most total votes (16).

By rank, catching smoking liars had the most first-place votes (five), design of the program had the most second-place votes (five), IT/systems to implement had the most third-place votes (seven), creating the algorithm had the most fourth-place votes (six) and management buy-in had the most fifth-place votes (four).

Despite companies finding a low percentage of smoker liars (see Figures 25 and 26 from Question 11), this was the fourth biggest concern among companies. The top 10–12 rankings are really not a surprise as we often hear companies talking about these issues.

4.11   WILLINGNESS TO PARTICIPATE IN AN AU INDUSTRY MORTALITY STUDY

Question 19 was split into three parts.

Question 19a asked about the company's willingness to participate in an AU industry mortality study in 2019. All 28 companies responded with 25 companies indicating yes or maybe.

Question 19b asked about the number of claims between Jan. 1, 2017, and Dec. 31, 2018, but very few companies answered this.

Question 19c asked if companies keep track of the changes in AU programs. Twenty-two companies answered this and it was split 50/50 between yes and no answers.

Section 5: DIRECT COMPANY—PRINCIPLE-BASED RESERVES

5.1 BACKGROUND

The *Valuation Manual (VM) Section 01, Definitions for Terms in Requirements* defines a mortality segment as a subset of policies for which a separate mortality table representing the prudent estimate assumption will be determined.

Section 20, Requirements for Principle-Based Reserves for Life Products (VM-20) goes on to require that the company shall determine mortality segments for the purpose of determining separate prudent estimate mortality assumptions for groups of policies that the company expects will have different mortality experience than other groups of policies (such as male vs. female, smoker vs. nonsmoker, preferred vs. super-preferred vs. residual, etc.).

The 2017, 2018 and 2019 editions of VM-20 did not contemplate the aggregation of policy groups with dissimilar underwriting. Further, the concept of "similar" underwriting had no definition within VM-01. Taken together, VM-01 and VM-20 language is unclear whether policies issued using an accelerated underwriting program and policies traditionally underwritten should or could be aggregated together with respect to the experience base on which the prudent estimate mortality assumption is derived. The language in these editions contemplated only incremental changes in underwriting and aggregating across an incremental change was permitted with demonstration based on medical or clinical studies that supported the estimated mortality impact.

During the timeframe of this survey, regulators were considering Amendment Proposal Form (APF) 2018-17. This amendment was ultimately adopted and its language will appear in the 2020 edition of the VM. It permits aggregation of policies under certain conditions, that is, where the premise of the mortality expectation being the same can be demonstrated, or the expected change to mortality can be estimated. The relevant paragraphs are reproduced below (additions to VM-20 Section 9.C.2):

> The company may base mortality on the aggregate company experience for a group of mortality segments when determining the company experience mortality rates for each of the individual mortality segments in the group if the mortality segments were subject to the same or similar underwriting processes.
>
> - An underwriting process that is expected to produce similar mortality to that of a previously established underwriting process, or for which the expected mortality differs from that of a previously established underwriting process only as the result of one or more specific, identifiable modifications to the established underwriting process for which the expected change to mortality may be reasonably estimated, may be treated as similar to the previously established underwriting process if these expectations regarding mortality are supported by relevant, pursuant to Section 9.A.6, third-party proprietary experience studies (such as those of reinsurers or consulting firms) or published medical, clinical, actuarial, or industry studies;
>
> - An underwriting process that has been shown to produce similar mortality to that of a previously established underwriting process based on a retrospective demonstration using statistical analyses, predictive model back-testing, or other modeling methods, or for which the expected change to mortality due to one or more specific, identifiable modifications to a previously established underwriting process has been estimated, based on a retrospective demonstration using statistical analyses, predictive model back-testing, or other modeling methods, may be treated as similar to the previously established underwriting process. Such retrospective demonstration shall be carried out and repeated at least once every three years, until such time as the estimated change in expected mortality has been shown to be stable and unlikely to change based on further review. Notwithstanding the above, a

retrospective demonstration is not required if the difference between the modified underwriting process and the established underwriting process is minor, such as a change in the thresholds associated with a risk characteristic and is clearly and reasonably expected to result in mortality experience that is not materially worse.

- To the extent that, when treating an underwriting process as similar, the judgment of the similarity of expected mortality or the estimate of the expected change to mortality increases uncertainty in the mortality assumption, the margin applicable to the mortality assumption should be increased pursuant to Section 9.C.5.d. …

Without the guidance provided by the revised language of APF 2018-17, companies would seemingly have to create a separate mortality segment including just those policies issued using acceleration. Initially, these separate segments would not have critical exposure amounts, resulting in very low partial credibility. The company would be forced to use industry mortality tables and industry margins. The guidance of APF 2018-17 provides for aggregating these policies together with traditionally underwritten policies as long as the appropriate demonstrations in support of the additional mortality estimate are available and the company has increased the mortality margin to accommodate any increased uncertainty around the company experience assumption.

Section B of the AU survey focused on the company's VM-20 assumption setting around mortality in light of APF 2018-17.

5.2 VM-20 IMPLEMENTATION STATUS OF PARTICIPATING COMPANIES

To better understand survey responses, the company's status with respect to VM-20 implementation was first gathered. Question 1a asked of the choices listed, check all that apply to the company's situation in regards to all the company's policies/products in scope of VM-20, regardless of underwriting approach. This was followed by a similar question in 1b but for products using an AU program. Figure 37 indicates that actuaries within companies with AU programs have either already performed a PBR valuation or are preparing to perform one. As well, the products in scope of VM-20 valuation definitely include policies issued using accelerated underwriting.

Figure 37

HAS THE COMPANY IMPLEMENTED VM-20 FOR ALL PRODUCTS AND FOR PRODUCTS WITH AU? (CHECK ALL CHOICES THAT APPLY)
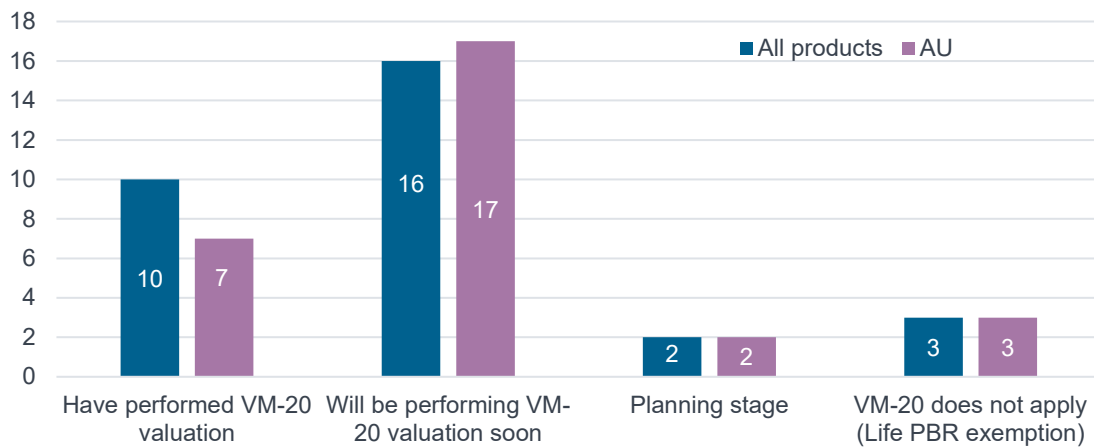
Questions 1a and 1b also asked for the valuation year for which a VM-20 valuation will be performed for each of the product groups. Information regarding the timing of VM-20 implementation is shown in Figure 38. It is clear that valuations performed beginning in 2019 and later will likely include policies issued using AU programs.

Figure 38

VM-20 IMPLEMENTATION TIMELINE

YEAR OF VM-20 IMPLEMENTATION	ALL PRODUCTS IN SCOPE OF VM-20	PRODUCTS USING AU PROGRAM
2018	6	2
2019	8	9
2020	7	7
Total	21	18

5.3 APPROACH TO AGGREGATING MORTALITY SEGMENTS IN DEVELOPING VM-20 MORTALITY CREDIBILITY

Question 2a askeds about the company's approach regarding aggregating mortality segments for purposes of determining credibility under VM-20:

In determining credibility for company experience mortality assumptions, are policies issued using the AU program combined with policies that are traditionally underwritten, or will they be if the company has not yet implemented VM-20 for the policies using AU program?

Figure 39 shows a clear trend toward aggregating AU policies with traditionally underwritten policies in determining credibility under VM-20 requirements.

Figure 39

AGGREGATING AU POLICIES WITH TRADITIONALLY UNDERWRITTEN POLICIES FOR PURPOSES OF VM-20 CREDIBILITY DETERMINATION

Aggregation	NUMBER OF COMPANIES
Will be aggregated	15
Will not be aggregated	2
Unsure, to be determined	8
Life PBR EXEMPTION	3
Total	28

We next follow up with question 2b asking the company to identify all sources they plan to use in support of aggregating mortality segments. The text of the question follows:

Recent proposed changes to VM-20 Section 9.c.4 (APF 2018-17) introduce considerations for determining the similarity of underwriting processes when determining credibility. If you answered the question 2a "Yes" [will be aggregated] or "to be determined," describe the rationale used (or planned) to support combining policies. Indicate all that apply.

Figure 40

RATIONALE IN SUPPORT OF AGGREGATING MORTALITY FOR PURPOSES OF VM-20 CREDIBILITY
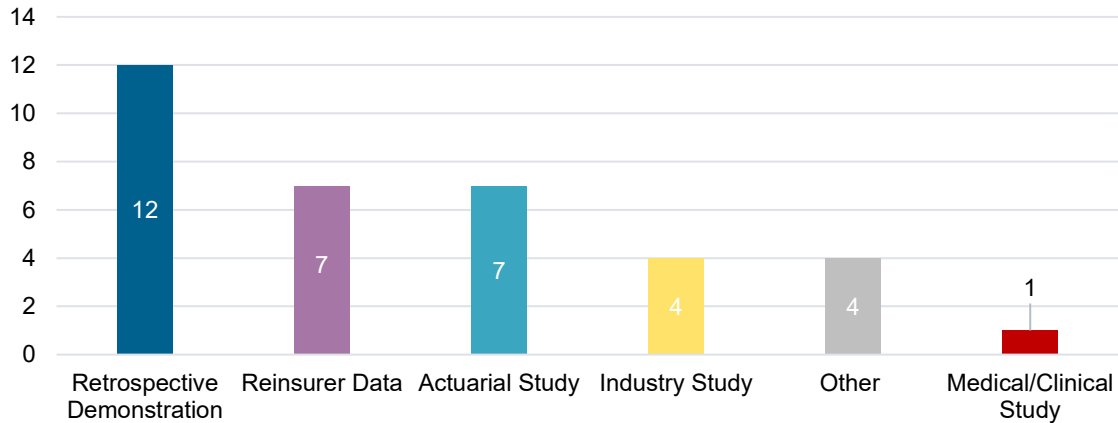
It is clear from Figure 40 that the expanded guidance introduced in APF 2018-17 will be used in practice, particularly the retrospective demonstration. Only one company indicated reliance on medical/clinical studies while all the remaining responses are for the other sources delineated by APF 2018-17.

Reinsurance partner studies are also noted as a key source for these demonstrations. Comments within the "Other" category include:

- To be determined.
- Will use a rationale based on a long history of modifications to underwriting selection criteria, of which AU is only the most recent iteration.
- We may add an additional mortality margin to AU policies, due to uncertainty.[1]
- We are treating AU policies similar to how we would view substandard policies.

5.4 LEVEL OF PARTIAL CREDIBILITY

Having established the company's position with respect to aggregating AU policies with traditionally underwritten policies in developing VM-20 mortality assumptions, question 2c asked for a broad indication of the level of credibility the company is working with in terms of the policies in scope. The question, as posed in the survey, is:

Describe the level of partial credibility of the block which includes the AU policies.

The choices provided were: 0%–20% credible, 21%–50% credible and 51%+ credible. Some respondents provided more information, which included the credibility for the AU policies on a stand-alone basis (i.e., if these were in a separate mortality segment) and for the more robust mortality segment of which the AU policies would be a part.

Responses to this item are detailed in Figure 41.

---

[1] APF 2018-17 makes an additional margin (in addition to prescribed margins) a requirement.

Figure 41

LEVEL OF PARTIAL CREDIBILITY

Aggregation Position from Figure 39	PARTIAL CREDIBILITY REPORTED	NUMBER OF COMPANIES
Will be aggregated	0%–20%	1
Will be aggregated	51% +	14
Will not be aggregated	0%–20%	1
Will not be aggregated	51% +	1
Unsure, to be determined	Unreported	3
Unsure, to be determined	0%–20%, if AU stands alone	4
Unsure, to be determined	0%–20%, even if AU aggregated	1
Life PBR exemption	NA	3
Total		28

For companies reporting they will aggregate AU policies with traditionally underwritten policies for purposes of credibility determination, reported credibility is in the higher tier, confirming reasons why aggregation is key. One company reports credibility in the lowest tier, which could be due to introducing a new product type or distribution channel as well as the AU program, for example. In other words, there could be more than just the underwriting program characteristic affecting reasons why the policies should be kept in a separate mortality segment.

Of two companies not aggregating AU policies with traditionally underwritten policies, responses are split between the lower and higher credibility tier.

For companies still unsure of AU policy treatment with respect to credibility, three respondents chose not to report on the credibility of either aggregation treatment. Of the five respondents that did report the partial credibility metric of 0%–20% while being unsure whether AU policies will be aggregated, four of these indicated the 0%–20% is for the AU cohort on a stand-alone basis. One of the five respondents indicated the 0%–20% partial credibility metric is for the cohort of AU and non-AU policies.

5.5 VM-20 COMPANY MORTALITY ASSUMPTION

The PBR section of the survey also included questions around the mortality assumption a company plans to use for VM-20 company mortality assumption. Question 3a asked for the company to indicate the choice that most closely represents the anticipated company experience mortality assumption before margins for the AU policies. The responses can be seen in Figure 42.

Figure 42

ANTICIPATED COMPANY EXPERIENCE MORTALITY ASSUMPTION (BEFORE MARGINS) FOR AU-ISSUED POLICIES

ANTICIPATED EXPERIENCE MORTALITY ASSUMPTION FOR AU-ISSUED POLICIES	NUMBER OF COMPANIES
The same as for traditionally underwritten business	14
Not the same as traditionally underwritten business because AU is treated as stand-alone segment	2
Other	9
Life PBR exemption	3
Total	28

These responses indicate that companies combining the AU-issued policies with traditionally underwritten policies consider the underlying company mortality experience rates for the AU policies to at least start with the same mortality basis as for traditionally underwritten business.

Within the "Other" category, these comments appeared in the survey results:

- We are treating AU policies similar to treatment for substandard policies.
- Are in the early stages of assumption development. Preliminary plans are to use a blended risk factor based on misclassification assumptions within AU segments. Analysis is on-going to determine if company should treat AU as a stand-alone segment.
- There is an adjustment to the total mortality to reflect the AU impact, similar to what is done when making other major underwriting policy changes over time.
- Company starts with traditionally underwritten experience and adds adjustments for changes in practice equal to the anticipated percent increase in mortality due to acceleration.
- Company experience plus a factor.
- The traditionally underwritten business and accelerated business is aggregated together into one assumption.

Overall, there appears to be two broad approaches in company experience mortality assumption development for companies that are aggregating AU with traditionally underwritten policies (or plan to) and that is (1) to use the same underlying basic company mortality rates that are used for the traditionally underwritten mortality experience, or (2) assess and develop the company experience mortality assumption using the combined cohort to begin with. Depending on the age of the AU program, either approach may make sense. For example, in the early days of a new AU program, (1) may make more sense since the AU policies have very little impact on the mortality study, while (2) would make more sense for the company with an AU program that has been in place for a longer time period.

Some companies expect to apply a scalar or some other type of adjustment to reflect changes to the basic mortality experience due to characteristics of the AU program that introduce potential changes to mortality. This approach is clear from the comments provided by participants in response to this question.

5.6 VM-20 COMPANY MORTALITY MARGIN

Figure 43 provides participant responses to question 3b that is framed much like question 3a, but relates to the VM-20 mortality margin.

Figure 43

MARGIN APPLIED TO ANTICIPATED COMPANY EXPERIENCE MORTALITY ASSUMPTION FOR AU-ISSUED POLICIES

MARGIN APPLIED TO ANTICIPATED EXPERIENCE MORTALITY ASSUMPTION FOR AU-ISSUED POLICIES	NUMBER OF RESPONSES
The same as for traditionally underwritten business	10
The same as traditionally underwritten business with an additional margin	9
Stand-alone treatment and prescribed margin deemed sufficient	1
Stand-alone treatment and prescribed margin plus additional margin	3
To be determined	2
Life PBR exemption	3
Total	28

Now that APF 2018-17 has been adopted, guidance around regulatory expectations for the company experience margin are made clear. The language in 2018-17 is reproduced below, in part:

> To the extent that, when treating an underwriting process as similar, the judgment of the similarity of expected mortality or the estimate of the expected change to mortality increases uncertainty in the mortality assumption, the margin applicable to the mortality assumption should be increased pursuant to Section 9.C.5.d.

However, at the time of this survey, the APF was only in the discussion stage. APF 2018-17 together with VM-20 Section 9.D.5.c. requires the company to increase the prescribed margin percentages, as appropriate, to reflect the level of uncertainty related to situations including the types introduced by AU programs (risk selection criteria changes, data underlying company experience mortality rates lacks homogeneity, etc.). As a result, companies who may be planning to only use the prescribed VM-20 margin will now need to consider an additional margin, its size being based on judgment. The comments associated with this question around VM-20 mortality margins are listed below.

- Treating AU as stand-alone and the additional margin (beyond prescribed margin) is not yet determined.
- AU program mortality is expected to be very close to traditionally underwritten mortality, so the additional margin will be small.
- Regulators are looking to change VM-20 to require an extra mortality margin if AU-issued policies are involved.

5.7 VM-20 INDUSTRY MORTALITY ASSUMPTION

Figure 44 provides responses to question 4 which asked companies to indicate the choice that most closely represents the industry experience mortality assumption before margins for the AU policies.

Figure 44

HOW VM-20 INDUSTRY MORTALITY ASSUMPTION FOR AU-ISSUED POLICIES IS DETERMINED

MORTALITY ASSUMPTION FOR AU-ISSUED POLICIES	NUMBER OF RESPONSES
We combine AU with traditionally underwritten policies and:	
use the same industry RR mortality tables as are used for traditionally underwritten business	15
use a higher industry RR mortality tables as are used for traditionally underwritten business	4
use a lower industry RR mortality tables as are used for traditionally underwritten business	0
We treat the AU as a separate (stand-alone) segment and the assumption is:	
the same as the industry table used for traditionally underwritten business	0
worse (higher rates overall) than the industry table used for traditionally underwritten business	2
better (lower rates overall) than the industry table used for traditionally underwritten business	0
To be determined	3
Other	1
Life PBR exemption	3
Total	28

The approach to identifying appropriate industry tables for blocks which include AU-issued policies is to either use the same industry tables as are being used for the traditionally underwritten policies, or use a higher table (meaning a higher relative risk table). One comment associated with the "Other" choice in this answer indicated the company would treat AU-issued policies similar to how substandard policies are viewed, presumably meaning to use an industry table like that for non-AU policies and use a scalar against these mortality rates to effectively increase the mortality for AU-issued policies in the model segment.

5.7.1. INDIVIDUALS AND GROUPS INVOLVED IN MORTALITY ASSUMPTION PROCESS

Question 5 gathered information about the individuals and groups involved in the VM-20 mortality assumption development and review process. Results in Figure 45 indicate that much of the development and review is being performed by professionals internal to the company. Reinsurers are playing a part in defining the mortality assumption as well. Many responses indicated that the "review" function is performed by someone different than the "development" function. In several cases, consultants are called

on to provide an independent review. It is not unusual for a company to be using more than one individual or group in the development and review processes.

Figure 45

INDIVIDUALS/GROUPS INVOLVED IN VM-20 MORTALITY ASSUMPTION DEVELOPMENT AND REVIEW

INDIVIDUAL / GROUP	DEVELOPMENT	REVIEW
Internal staff	21	20
Reinsurer	6	2
Consultant	2	6
Vendor	2	1
Total	**22**	**22**

5.7.2. SOURCES USED TO ESTABLISH MORTALITY ASSUMPTION

Question 6 gathered information about the sources companies are using to support the VM-20 mortality assumption. Results in Figure 46 make clear that most companies are using more than one data source to inform this assumption.

Figure 46

SOURCES OF DATA USED TO DEVELOP VM-20 MORTALITY ASSUMPTION

SOURCE	NUMBER OF RESPONSES
Company's own internal experience data not written through AU (example: the traditionally underwritten policies)	17
Retrospective demonstrations that demonstrate mortality expectations for policies issued through AU as compared to those issued through traditional underwriting process	15
Reinsurers have provided the company with its basis for expected mortality for policies issued through AU	13
Company's own internal experience data for only policies issued through AU programs	9
Published medical, clinical, actuarial or industry studies that demonstrate mortality expectations for policies issues through AU as compared to those issued through traditional underwriting processes	6
Consultants have provided the company with its basis for expected mortality for policies issued through AU	1
To be determined	1
Total	24

Section 6: REINSURER OPINIONS

6.1 INTRODUCTION

Five reinsurers responded to the reinsurer survey, but some did not answer all of the questions. This survey focused on reinsurers' opinions on accelerated underwriting as well as what they are doing or plan to do with respect to PBR.

The first section had questions on accelerated underwriting assumptions and practices. There were several questions where we asked reinsurers to rank certain items. On some of these questions, a couple of reinsurers chose to use more votes than we gave them. We decided to leave the responses in because we felt they still provided meaningful results. We are also letting the reader know this so they are not alarmed when some columns add up to six (or seven) rather than five votes.

6.2 EXPECTED MORTALITY AND LAPSE RELATIVE TO FULLY UNDERWRITTEN EXPERIENCE

Question 1 asked, relative to current fully underwritten mortality business in 2018, in 2023, what do you expect the mortality to be on both sets of policies under an AU program. Figure 47 shows the results where the requirements were waived and Figure 48 shows the results where the policies went through full underwriting (including random holdouts). Reinsurers were asked to answer separately for their clients with low expected mortality and for clients with high expected mortality. All five reinsurers responded.

Figure 47

RANGE OF EXPECTED MORTALITY WHEN REQUIREMENTS WERE WAIVED

Relative to fully underwritten mortality levels in 2018 (and excluding mortality improvement), where will AU mortality be in 2023?	Low Mortality Client	High Mortality Client
More than 50% lower	0	0
More than 20% up to 50% lower	0	0
More than 10% up to 20% lower	0	0
1%–10% lower	2	0
Within 1% in either direction	0	0
1%–10% higher	3	1
More than 10% up to 20% higher	0	2
More than 20% up to 50% higher	0	2
More than 50% higher	0	0

For when the underwriting requirements were waived, the expectations for the low mortality clients ranged from 1%–10% lower to 1%–10% higher. For high mortality clients, the results were higher, ranging from 1%–10% higher to more than 20% to 50% higher.

Using the midpoint of each range, the average of the low mortality clients was 1% higher and the average of the high mortality clients was 21% higher. Assuming equal weighting between these groups, the overall average was 11% higher. As in the first section of the direct company survey, this final percentage involves many assumptions and may or may not be representative of the results your company will experience.

The answers for the low mortality clients of both lower and higher mortality makes us think more about this question in general. Now, after the fact, we realize this is a very difficult question to both ask and answer. If, for example, a company only allows the best preferred nonsmoker risk class to have their requirements waived, then that by itself could mean the overall mortality for those getting their requirements waived will be better than the overall full underwriting. But if there are mistakes in the algorithm allowing some to have their requirements waived that shouldn't have had them waived, then this

could make the mortality worse than that for the overall full underwriting. We sense the reinsurers answered this question both ways. The intent of this question was to try to determine possible slippage in the waiving of the underwriting requirements and we may not have accomplished that.

Figure 48

RANGE OF EXPECTED MORTALITY WHEN REQUIREMENTS WERE NOT WAIVED

Relative to fully underwritten mortality levels in 2018 (and excluding mortality improvement), where will AU mortality be in 2023?	Low Mortality Client	High Mortality Client
More than 50% lower	0	0
More than 20% up to 50% lower	0	0
More than 10% up to 20% lower	1	0
1%–10% lower	2	0
Within 1% in either direction	1	1
1%–10% higher	1	3
More than 10% up to 20% higher	0	0
More than 20% up to 50% higher	0	1
More than 50% higher	0	0

For when the underwriting requirements were not waived, the expected mortality results for the low mortality clients ranged from more than 10% up to 20% lower to 1%–10% higher. For high mortality clients, the results were again higher, ranging from about the same to more than 20% to 50% higher.

Using the midpoint of each range, the average of the low mortality clients was 4% lower and the average of the high mortality clients was 8% higher. Assuming equal weighting between these groups, the overall average was 2% higher. It is interesting to note that this final result of the averages is a slightly overall higher expected mortality. This is likely due to (1) the better risks who thought they should have had their requirements waived, withdrawing and applying at another company rather than going through full underwriting and (2) the better risks are the ones that have their underwriting requirements waived, leaving more of the residual lives. As just mentioned, this final percentage involves many assumptions and may or may not be representative of the results your company will experience.

There were several comments on this question:

- The mortality impact depends on many factors including the target market, what underwriting tools are used and how the cases that get accelerated are determined.
- Under a triage system, mortality could be vastly different between the AU and [fully underwritten] paths either because only the risks with better profiles are eligible for AU or because only policies that are eligible for the best preferred classes are sent to AU thus the fully underwritten is residual. Also there could be a material difference in mortality between the policies that are random holdouts vs. those that are knocked out to fully underwritten for cause. There are also other programs with mortality offsetting models. The prevalence by preferred class will differ greatly between AU and fully underwritten paths and depending on the program you will see very different results. Just because we are giving the same range here, does not mean we won't see an impact of path dependent mortality.
- Even with new tools and evidence sources that have the power to segment mortality across risk classes, it is challenging to offset the loss of the protective value of fluids and paramedical exams, especially given the possibility of higher anti-selection due to the loss of sentinels. Consequently, it is unlikely that mortality will be lower than before for those policies for which full requirements were not collected. However, mortality could be higher or lower than prior fully underwritten business for those policies where full requirements are collected, depending on how new evidence sources are used. My response would likely be higher in the absence of targeted risk class adjustments utilizing new evidence due to the residual effect of skimming off the best risks for the accelerated path.

- For the entire program, there is potential for an extreme scenario where the mortality could be more than the ranges indicated.

Similar to the issue just described, if a company only allows the best preferred nonsmoker risk class to have their requirements waived, then that by itself could mean the overall mortality for those not getting their requirements waived will be worse than the overall full underwriting. This is because the overall full underwriting includes the best preferred nonsmoker risks while those not getting their requirements waived only includes a limited number of these best risks, if any. It is possible for the algorithm to do a perfect job and yet the group without the requirements being waived would have worse, rather than the same, mortality compared to the overall traditional fully underwritten business. The intent of this question was to try to determine the impact of the acceleration and we may not have accomplished that. Some of the reinsurers may have indicated the mortality would be worse because of the issue just described while others were estimating how much worse the mortality would be due to the algorithm.

Question 2 asked about the possibility of changing the underwriting manual (e.g., by adding a section on accelerated underwriting).

Figure 49 shows the results. All five reinsurers responded.

Figure 49

CHANGES TO UNDERWRITING MANUAL

Do you anticipate needing to revise your external underwriting manual?	Number of Reinsurers
Yes, we have already revised our manual	0
Yes, within the next year	2
Yes, within the next 2–3 years	1
Yes, but not within the next few years	1
No, we do not believe it will need to be updated for this	1
We are not sure at this time	0
Not applicable/we do not have an external underwriting manual	0

The reinsurer that responded no indicated they do not have an explicit section for AU, but they consider all underwriting requirements collected as they develop the ratings.

Another reinsurer commented that "any revisions may be more process oriented (i.e., when to order certain requirements, the sequence in which they should be ordered, what impairments would be acceptable for acceleration, etc.), as the actual number of debits associated with particular impairments (e.g., diabetes) will not be impacted by AU. What will change is our ability to identify the presence of those conditions for a particular applicant."

The responses indicate that all of the reinsurers plan to update their manuals for AU programs, but they plan to update them at different times and possibly in different ways.

Question 3 was similar to question 1, except it asked about lapses.

The responses for when the requirements were waived are shown in Figure 50 and the responses for when the requirements were not waived are shown in Figure 51. The specific question asked is shown in both of the figures. Responses were provided for low and high lapse clients. Note that the percentages shown here represent differences in lapse rates and not percentage differences.

Figure 50

RANGE OF EXPECTED LAPSE RATES WHEN REQUIREMENTS WERE WAIVED

Relative to fully underwritten lapse rates in 2018, where will AU lapse rates be in 2023?	Low Lapse Client	High Lapse Client
More than 3% lower	0	0
More than 1% up to 3% lower	3	0
Within 1% in either direction	1	1
More than 1% up to 3% higher	0	3
More than 3% higher	0	0
Do not know	1	1

All five reinsurers responded but one reinsurer indicated they did not know the aggregate lapse rates on polices issued where the requirements were waived.

When the underwriting requirements were waived, the expectations for the low lapse clients ranged from more than 1% up to 3% lower to about the same. For the high lapse clients, the results were higher, ranging from about the same to more than 1% up to 3% higher.

Using the midpoint of each range, the average of the low lapse clients was over 2.25% lower and the average of the high lapse clients was 1.5% higher. Assuming equal weighting between these groups, the overall average was about 0.4% lower. As described for mortality, this final percentage involves many assumptions and may or may not be representative of the lapse results your company will experience.

Figure 51

RANGE OF EXPECTED LAPSE RATES WHEN REQUIREMENTS WERE NOT WAIVED

Relative to fully underwritten lapse rates in 2018, where will AU lapse rates be in 2023?	Low Lapse Client	High Lapse Client
More than 3% lower	0	0
More than 1% up to 3% lower	1	0
Within 1% in either direction	4	3
More than 1% up to 3% higher	0	2
More than 3% higher	0	0
Do not know	0	0

When the underwriting requirements were not waived, the expectations for the low lapse clients ranged from more than 1% up to 3% lower to about the same. For the high lapse clients, the results were again higher, ranging from about the same to more than 1% up to 3% lower.

Using the midpoint of each range, the average of the low lapse clients was 0.4% lower and the average of the high lapse clients was 0.8% lower. Assuming equal weighting between these groups, the overall average was 0.2% higher. As just described, this final percentage involves many assumptions and may or may not be representative of the lapse results your company will experience.

Comments included:

- We already see higher early duration lapses on AU vs. fully underwritten.
- AU programs lapse rates can be driven by multiple factors. For example, credit scores can correlate with lower/higher lapse rates.
- Would not expect a meaningful change in lapse rates, though there could be a bigger difference for AU programs that use credit/public record data as part of the decision for which policies to accelerate.
- There are reasons that lapse rates could increase and reasons they could decrease for business issued without fluids. For the business issued with full underwriting, I'm interpreting the question as the level of persistency adjusted for risk class mix. This is important because we know that preferred classes generally experience lower lapse rates than the standard class. Since more of the preferred risks will

be accelerated, the pool of individuals going through full underwriting will likely be more heavily standard than before. That alone could give it higher overall lapse rates if risk class isn't taken into account.

- Lapse rate could be slightly higher than full underwriting in first one to three years, but should level off after that due to increasing age as deterrent.

In summary, the overall lapse rates were expected to be slightly lower when the requirements were waived and slightly higher when they were not waived. There are a number of possible reasons for this, including the use of credit and how risk classes are taken into account. The results will also likely vary by duration.

6.2 REINSURER AU SUPPORT

Question 4 asked the reinsurers about the support reinsurers provide to companies with AU programs. Questions 4a and 4c were yes/no questions. Questions 4b and 4d were follow-up questions if the reinsurer answered no. As all five reinsurers answered yes to questions 4a and 4c, there were no answers to questions 4b and 4d.

Question 4a was: Do you currently assist companies in building a pilot AU program?

Question 4c was: Will you support (through reinsurance) a pilot program for AU?

There was one write-in comment about the volume of help that has been provided.

6.3 AU COMPONENTS WITH THE MOST IMPACT ON MORTALITY AND AU TOOLS THAT LEAD TO A SUCCESSFUL PROGRAM

Question 5 asked the reinsurers to indicate the top five AU components that have the most impact on mortality outcomes.

Figure 52 summarizes the results. As before, in order to calculate a weighted rank, a rank of 1 received five points, a rank of 2 received four points, 3 received three points, 4 received two points and 5 received one point. Four reinsurers responded, with one reinsurer providing two votes for rank 2.

Figure 52
TOP 5 AU COMPONENTS THAT HAVE MOST IMPACT ON MORTALITY

Component	Rank					
	1	2	3	4	5	Weighted Rank
Application data	1	2	0	1	0	15
FCRA approved data	1	0	2	0	0	11
Random holdout program	0	1	1	1	0	9
Qualification percentage goal	1	0	1	0	0	8
Algorithm used	1	0	0	0	2	7
Post-issue audits	0	1	0	1	1	7
Write-in: Pool of applicants	0	1	0	0	0	4
Non-FCRA approved data	0	0	0	1	0	2
Training completed	0	0	0	0	1	1

The top three AU components impacting mortality were application data (weighted ranking of 15), FCRA approved data (11) and random holdout program (nine). This was followed by the qualification percentage goal (eight) and the algorithm used and post-issue audits (both with seven).

One write-in vote was ranked; however, reinsurers provided other items without ranking. These included:

- The degree to which data is utilized will affect the AU program's mortality outcomes.
- The pool of applicants that is attracted to the program and the level of anti-selection/steering are key drivers of the mortality impact.
- Training completed may not have received more votes because it was not understood what was meant by it. The intention of the survey was for it to mean the completion of any or all training on the AU program and it could be to actuaries, underwriters, sales and marketing, management, etc.

Some other comments that may be helpful included:

- The importance of these items will vary by client and program (e.g., what scores were used and the thresholds were set). [The] ranking [itself may not give] an accurate picture.
- "FCRA data" and "algorithm used" are not mutually exclusive categories—FCRA should be the standard when using accelerated underwriting and algorithms.
- While post-issue audits can influence mortality of policies issued in the future through modifications to the program design, they can only affect mortality for policies already on the books if action is taken in cases of material misrepresentation and/or misclassification.

Question 6 asked reinsurers to rank the top six items/tools for the success of AU programs.

Figure 53 shows the results. All five responded. One reinsurer provided two votes for ranks 1, 2, 3 and 6, another reinsurer provided two votes for rank 6 and a third reinsurer did not provide a vote for rank 6.

Figure 53
TOP 6 ITEMS/TOOLS FOR SUCCESSFUL AU PROGRAM

Item/Tool	Rank						Weighted Rank
	1	2	3	4	5	6	
Prescription histories	3	1	1	0	0	0	27
Credit data	0	1	1	2	0	0	15
MIB	1	0	1	0	2	0	14
Electronic health records	1	1	0	0	1	0	13
Random holdouts	0	1	1	0	0	2	11
MVR	0	0	1	2	0	0	10
Predictive algorithm(s)	0	1	0	0	1	1	8
Write-in: Application	1	0	0	0	0	0	6
Post-issue underwriting	0	1	0	0	0	1	6
Financial data	0	0	1	0	0	0	4
Demographic data	0	0	0	1	0	0	3
Identification check	0	0	0	0	1	0	2
Criminal data	0	0	0	0	0	1	1
Inspection report	0	0	0	0	0	1	1
Smoker propensity model	0	0	0	0	0	0	0
Social media	0	0	0	0	0	0	0
Wearables	0	0	0	0	0	0	0

The top-rated tool for a successful AU program was prescription histories, with a weighted rank of 27, almost twice that of the next two tools and over twice all of the others. The next rated tools were credit data (15), MIB (14), electronic health records (13), random holdouts (11), MVR (10) and predictive algorithm(s) (eight). All other tools receiving votes received only one vote. The next tool, which was a write-in and received a top rank, was the application.

Three tools (smoker propensity model, social media and wearables) each received no votes. It is possible the smoker propensity model did not receive any votes because there was not one at the time of the survey available to use yet.

Comments included:

- My response assumes that credit data is referring to predictive models and model based scores utilizing credit data rather than a raw credit report and its components. Electronic health records [EHR] will likely be very useful in the future, but they are not quite at a stage where they can be fully utilized today. It's a bit challenging to rank MIB, Rx and MVR as these are all table stakes today for any successful AU program.
- The importance of some tools varies depending on the target market and/or distribution channel. EHR will be a huge benefit to AU in the future, but we didn't include in the top six since current use/availability is very limited.
- Value of algorithm increases based on the data inputs. We see EHR importance as growing in the future. We give the same weight to random holdouts and post-issue underwriting.
- Different companies will define the "success" of their AU programs differently. We consider a successful AU program having mortality experience in line with pricing assumptions. This is reflected in our answers.
- Identification check should be done even before entering into accelerated underwriting program. Ideally, the individual sources of data should be incorporated into a predictive algorithm to ensure optimal success in the program.

The biggest take away from the comments is that while EHR currently ranked fourth, it will likely grow in importance in the future.

6.4 QUALITY OF DIRECT COMPANY DATA/INFORMATION SUBMISSIONS

Question 7 asked about the quality of information provided by the direct companies to the reinsurers on the AU programs. Several specific categories were asked about. The results are shown in Figure 54. Four reinsurers responded. All of the direct companies provided data/information on at least some of the four items requested: acceleration rates, placement rates, random holdouts and post-issue audits.

Note that the responses for each item have been sorted by the number companies providing the information. The order of the reinsurers is not the same for each item.

Figure 54

QUALITY OF AU DATA/INFORMATION SUBMISSIONS

Data/Information	Number of Companies Providing	Percentage		
		Excellent	Average	Poor
Acceleration rates	21	67	33	0
	13	25	33	42
	10	50	40	10
	4	100	0	0
	Weighted avg.	54.8	31.7	13.5
Placement rates	16	50	50	0
	11	82	18	0
	5	20	20	60
	4	100	0	0
	Weighted avg.	61.2	30.5	8.3
Random holdouts	16	63	37	0
	15	56	6	38
	9	56	33	11
	4	100	0	0
	Weighted avg.	62.5	22.3	15.2
Post-issue audits	23	70	30	0
	7	50	0	50
	4	100	0	0
	1	0	100	0
	Weighted avg.	67.4	22.6	10

The total number of direct companies providing information was:

- 48 for acceleration rates
- 44 for random holdouts
- 36 for placement rates
- 35 for post-issue audits

The most direct companies providing a specific type of information to one reinsurer was 23, and that was on post-issue audits.

Weighted averages were calculated based on the number of direct companies.

Excellent submissions ranged from a weighted average of 54.8% for acceleration rates to 67.4% for post-issue audits. Poor submissions ranged from 8.3% for placement rates to 15.2% for random holdouts. Average submissions ranged from about 22% to 32%.

The observations in question 7 are based on the opinions of the reinsurers, which may vary from reinsurer to reinsurer. What can be concluded from the observations is that there is a fluctuation in the quality of AU program submissions that varies by both type of submission and individual company.

Comments from the reinsurers included:

- We interpreted "acceleration rates" to mean the percentage of total applicants eligible for AU. [We also] interpreted "placement rates" to refer to the applicants who go through AU and are issued as AU.
- We believe that monitoring is critical for a successful AU program so [we] emphasize the importance of data and reporting when we work with our clients to develop their AU program. The quality and depth of data that direct companies can access has improved significantly over the last few years.
- The carriers are putting forth best efforts to provide quality information.

The reinsurer that did not respond to this question said they did not have the breakdowns readily available.

6.5 TOP TIPS ON DESIGN, IMPLEMENTATION OR OVERALL SUCCESS OF AU PROGRAM

Question 8 asked the reinsurers for the top three to five pieces of advice they would like to provide the direct companies on the design, implementation or overall success of their AU program(s).

Four reinsurers responded to this question, with the other reinsurer indicating they considered this information proprietary. The reinsurers that responded provided many comments. Rather than sorting the responses by reinsurer, the responses are organized by topic. Exact wording is used.

Beginning

- Start "small" and expand as you get comfortable.
- It is easier to start conservative and expand/liberalize if prudent than to start aggressively and later find it necessary to scale back.
- Implement gradually, learning and adjusting.
- Be open to new data available but also [be] cognizant of regulatory restrictions.
- Consider the evidence used in your AU program and how it is currently viewed by regulators and how that may change in the future.
- Engage your reinsurance partners for help in setting up your AU program and monitoring processes.

Communication and training

- Importance of communication and training as you develop the program.
- Be clear on program objectives.
- Strong focus on change management, communication and training of staff to ensure success.

Monitoring business

- Experience monitoring is key.
- It is essential to have a random holdout process and/or post-issue audits.
- Establish a robust monitoring program (including random holdouts where full evidence is randomly collected on a sample of applicants who would otherwise have been approved with reduced requirements) so that data can be collected and analyzed for comparison to your initial pricing assumptions.
- Track misrep[resentation] rates (smoking, BMI, personal/family history), misclassification and severity of declines that would have been accepted standard or better.
- Monitor early duration lapse, preferred class prevalences compared to fully underwritten [business].
- Do back-testing (if data allows) so that you have benchmarks that you can compare emerging results.
- Credible experience studies are still a few years out (at least) and this can help provide some indication of program performance in the intervening years.

Respond to findings

- Monitoring is critical so that you learn quickly and can adjust as necessary
- Create ongoing monitoring and management and adjust for findings (random holdouts, audits, etc.).
- Be ready and able to take action ASAP once you see issues emerge, as opposed to waiting for credible claims experience to start rolling in.

Section 7: PRINCIPLE-BASED RESERVES—REINSURER

7.1 VM-20 IMPLEMENTATION STATUS OF PARTICIPATING REINSURERS

Four of the five participating reinsurers chose to respond to the principle-based reserves section of the survey. The questions posed are exactly the same as for direct writers. Figure 55 shows responses to questions 1a and 1b regarding the status of VM-20 preparedness for all products and for products with an accelerated underwriting program.

Figure 55

VM-20 PREPAREDNESS
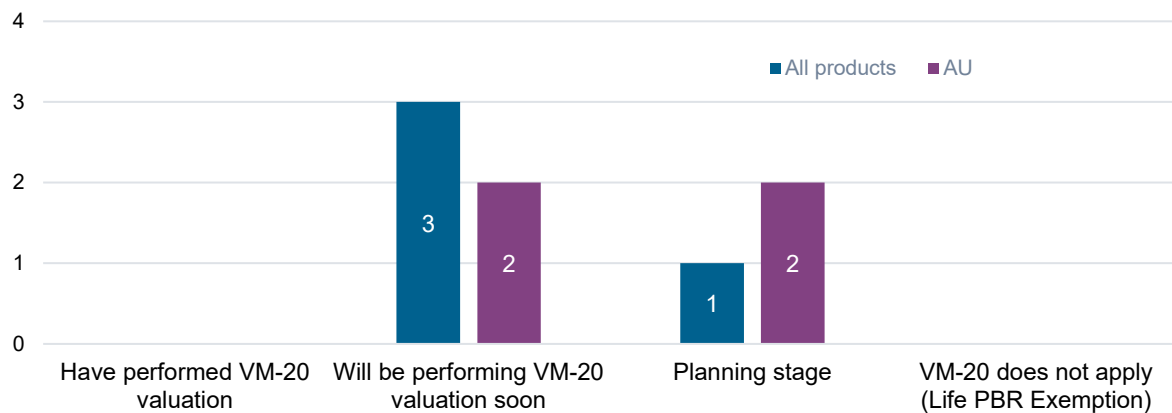
None of these reinsurers have yet performed a PBR valuation. Two reinsurers expect to perform a principle-based valuation for calendar year 2019 and two for calendar year 2020. None of these reinsurance companies are eligible for the life PBR exemption.

One reinsurer commented that, while AU programs may represent a very distinct underwriting basis from the perspective of a direct writer, reinsurers already participate in a range of underwriting paradigms and AU is simply an additional variant on this range.

7.2 APPROACH TO AGGREGATING MORTALITY SEGMENTS IN DEVELOPING VM-20 MORTALITY CREDIBILITY

Like direct companies, reinsurers will be subject to the VM-20 language introduced by APF 2018-17. During the timeframe of this survey, however, the APF was being discussed and had not officially been adopted. Figure 56 indicates a split between the four responding reinsurers to question 2a regarding whether the AU policies will be aggregated with traditionally underwritten policies for purposes of VM-20 credibility determination.

Figure 56

AGGREGATING AU POLICIES WITH TRADITIONALLY UNDERWRITTEN POLICIES FOR PURPOSES OF VM-20 CREDIBILITY DETERMINATION

AGGREGATION	NUMBER OF REINSURERS
Will be aggregated	2
Will not be aggregated	1
Unsure, to be determined	1
Total	4

One reinsurer added a comment related to this question indicating the AU-issued policies fall within a range of products that are reinsured which have similar experience and underwriting characteristics. For this reason, the AU business is grouped with similar business that does not use AU.

Figure 57 indicates all the data sources reinsurers identified in responses to question 2b as being part of the rationale they plan to use in support of aggregating mortality segments. The prevailing data source for supporting aggregation is expected to be reinsurer own data.

Figure 57

ANALYSIS OF AGGREGATING MORTALITY FOR PURPOSES OF VM-20 CREDIBILITY
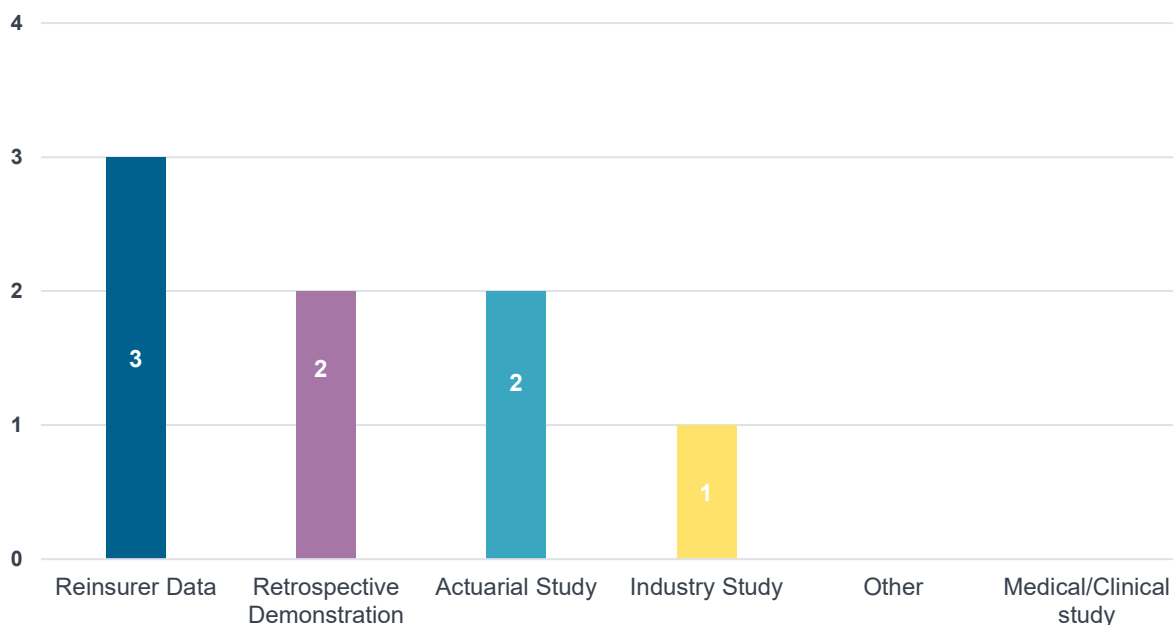
7.3 LEVEL OF PARTIAL CREDIBILITY

Figure 58 provides the reinsurers' responses to question 2c , providing a description of the level of partial credibility of the block that includes the accelerated underwritten policies.

Figure 58

LEVEL OF PARTIAL CREDIBILITY

AGGREGATION POSITION FROM FIGURE 56	PARTIAL CREDIBILITY REPORTED	NUMBER OF REINSURERS
Will be aggregated	0%–20%	1
Will be aggregated	Unreported	1
Will not be aggregated	0%–20%	1
Unsure, to be determined	Unreported	1
Total		4

From a reinsurer's perspective, aggregating AU policies with traditionally underwritten policies is a more complicated issue, since several direct company client programs may be involved.

7.4 VM-20 COMPANY MORTALITY ASSUMPTION

Figure 59 displays the reinsurer responses to question 3a which asks to indicate the choice that most closely represents the VM-20 company experience mortality assumption.

Figure 59

VM-20 ANTICIPATED COMPANY EXPERIENCE MORTALITY ASSUMPTION FOR AU-ISSUED POLICIES

ANTICIPATED EXPERIENCE MORTALITY ASSUMPTION FOR AU-ISSUED POLICIES	NUMBER OF REINSURERS
The same as for traditionally underwritten business	1
Not the same as traditionally underwritten business because the AU is treated as stand-alone segment	2
Other	1
Total	4

The reinsurer selecting "Other" indicated that advancement of predictive analytics tools would be expected to allow companies to get to traditionally underwritten levels of mortality going forward.

7.5 VM-20 COMPANY MORTALITY MARGIN

Figure 60 displays the reinsurer responses to question 3b that is framed much like question 3a, but relates to the VM-20 company mortality margin.

Figure 60

MARGIN APPLIED TO ANTICIPATED COMPANY EXPERIENCE MORTALITY ASSUMPTION FOR AU-ISSUED POLICIES

MARGIN APPLIED TO EXPERIENCE MORTALITY ASSUMPTION FOR AU-ISSUED POLICES	NUMBER OF REINSURERS
The same as for traditionally underwritten business	2
The same as traditionally underwritten business with an additional margin	0
Stand-alone treatment and prescribed margin deemed sufficient	2
Stand-alone treatment and prescribed margin plus additional margin	0
To be determined	0
Total	4

Comments provided with this question include:

- We are in the process of determining/finalizing margins; however, no additional margin is expected to be required for AU business given the overall level of margins in VM-20.
- Margins are still to be determined but we expect to have different margins.

7.6 VM-20 INDUSTRY MORTALITY ASSUMPTION

Figure 61 displays the reinsurer responses to question 4 which asks to indicate the choice that most closely represents the VM-20 industry experience mortality assumption before margins for the accelerated underwritten policies.

Figure 61

HOW VM-20 INDUSTRY MORTALITY ASSUMPTION FOR AU-ISSUED POLICIES IS DETERMINED

MORTALITY ASSUMPTION FOR AU-ISSUED POLICIES	NUMBER OF REINSURERS
We combine AU with traditionally underwritten policies and:	
use the same industry RR mortality tables as are used for traditionally underwritten business	2
use a higher industry RR mortality tables as are used for traditionally underwritten business	0
use a lower industry RR mortality tables as are used for traditionally underwritten business	0
We treat the AU as a separate (stand-alone) segment and the assumption is:	
the same as the industry table used for traditionally underwritten	1
worse (higher rates overall) than the industry table used for traditionally underwritten	1
better (lower rates overall) than the industry table used for traditionally underwritten	0
Total	4

7.6.1. INDIVIDUALS AND GROUPS INVOLVED IN MORTALITY ASSUMPTION PROCESS

Question 5 of the reinsurer survey gathered information about the individuals and groups involved in the VM-20 mortality assumption development and review process. Results in Figure 62 make clear that most of the development and review is being performed by professionals internal to the company. Recall that from the direct company responses, reinsurers were noted as playing a significant part in defining the mortality assumption for direct writers.

Figure 62

THOSE INVOLVED IN VM-20 MORTALITY ASSUMPTION DEVELOPMENT, REVIEW

INDIVIDUAL / GROUP	DEVELOPMENT	REVIEW
Internal staff	3	3
Reinsurer	0	0
Consultant	0	1
Vendor	0	0
To be determined	1	1
Total	4	4

7.6.2. SOURCES USED TO ESTABLISH MORTALITY ASSUMPTION

In question 6, the reinsurer survey gathered information about the sources companies are using to support the VM-20 mortality assumption. Results in Figure 63 make clear that reinsurers are using more than one data source to inform this assumption and a big part of the demonstration will use the reinsurer's own internal experience data for AU-issued policies.

Figure 63

SOURCES OF DATA USED TO DEVELOP VM-20 MORTALITY ASSUMPTION

SOURCE	NUMBER OF RESPONSES
Retrospective demonstrations that demonstrate mortality expectations for policies issued through AU as compared to those issued through the traditional underwriting process	3
Company's own internal experience data for only policies issued through AU programs	3
Company's own internal experience data not written through AU (i.e., traditionally underwritten policies)	2
Published medical, clinical, actuarial or industry studies that demonstrate mortality expectations for policies issues through AU as compared to those issued through traditionally underwritten processes	2
Reinsurers have provided company with its basis for expected mortality for policies issued through AU	0
Consultants have provided company with its basis for expected mortality for policies issued through AU	0
To be determined	0
Total	4

One reinsurer commented that, as a reinsurer, they have information relating to experience for business underwritten on a spectrum of underwriting paradigms. It is this data which is used to support the setting of AU mortality assumptions in the context of the overall VM-20 mortality assumption for similar business.

Section 8: CONCLUSION

We believe that AU programs are still in their infancy and will continue to evolve over time. Some of the drivers behind future changes include:

- Feedback from agents, applicants and the data itself
- The introduction and availability of new data and tools
- Regulatory changes
- Companies deciding how to position themselves

We recommend doing this survey or a similar one again in a few years to observe the changes from this survey as well as future plans.

Section 9: ACKNOWLEDGMENTS

The authors would like to thank the SOA for giving us this opportunity to complete this important survey for the industry. We would also like to thank the participating companies for their time, effort and insights. And finally, we would like to thank the Project Oversight Group (POG) for their feedback and insights on both designing the survey and reviewing the report.

The POG included:

- George Hrischenko, Chair, SCOR
- Mary Bahna-Nolan, Pacific Life
- Sue Bartholf, Milliman
- Luc Bergeron, Humana
- Sean Conrad, Hannover Life Re
- Lauren Cross, John Hancock
- Andy Ferris, Deloitte
- Gershon Firestone, Swiss Re
- Illya Golanek, CUNA Mutual
- Jason Jump, Nationwide
- Nathan Mecray, Gen Re
- Donna Megregian, RGA
- Murali Niverthi, Munich Re
- Jan Schuh, SOA
- Mary Simmons, Protective
- Ronora Stryker, SOA

The authors would also like to thank the following individuals at Milliman for their assistance:

- Carl Friedrich
- Crystal Kmoch
- Gina Ritchie

For any questions or feedback, please contact any of the following:

- Al Klein at *al.klein@milliman.com*
- Karen Rudolph at *karen.rudolph@milliman.com*
- Ronora Stryker at *rstryker@soa.org*

APPENDIX A   PARTICIPATING COMPANIES

Participating Direct Companies

AAA Life Insurance Company

Allianz Life Insurance Company of North America

Allstate Life Insurance Company

American Family Life Insurance Company

Amica Life Insurance Company

EMC National Life Company

Fidelity & Guaranty Life Insurance Company

Horace Mann Life Insurance Company

John Hancock Life Insurance Company

Lincoln Financial Group

Mutual of Omaha

Nationwide Life Insurance Company

New York Life Insurance Company

Northwestern Mutual Life Insurance Company

OneAmerica

Oxford Life Insurance Company

Pacific Life Insurance Company

Penn Mutual Life Insurance Company

Primerica Life Insurance Company

Protective Life Insurance Company

Prudential Life Insurance Company of America

RiverSource Life Insurance Company

Sagicor Life Insurance Company

Sammons Financial Group

Securian Financial

Thrivent Financial

USAA Life Insurance Company

Western and Southern Financial Group

Participating Reinsurers

Hannover Re

Munich American Reassurance Company

PartnerRe

RGA Reinsurance Company

Swiss Re Life and Health

APPENDIX B   DIRECT COMPANY SURVEY

Accelerated underwriting (AU) programs in the life insurance industry generally began 5-6 years ago, primarily to make the purchase of life insurance easier and quicker. There are different approaches being used to accomplish this and the early programs have evolved over the short time of their existence.

The goals of this survey are two-fold:

    A. To better understand the range of current accelerated underwriting (AU) practices in the life insurance industry, and

    B. To better understand the range of practices for establishing VM-20 mortality assumptions for AU programs.

We have tried to avoid questions seeking proprietary information. Responses will not be shared directly in the report or with other survey respondents. The name of your company will only be identified at the end of the report as a participant. There are two sections to this survey, one to cover each of our goals. Please respond to as many items as possible, and include explanatory notes where needed in the Comments section of each question. Please use additional space, if needed, to provide your comments.

By Accelerated Underwriting (AU), we are referring to any fully underwritten life insurance program that allows some applicants to forgo having a medical or paramedical exam and providing fluids, if they meet certain requirements and/or meet a certain pre-determined threshold.

Our first question asks about all of your AU programs. However, please answer all subsequent questions in this survey based on your most prevalent AU program (i.e., the AU program with the highest level of sales by policy count), unless specifically asked about all of your programs in aggregate. If you prefer not to answer a question, leave it blank, but let us know you are doing that in the Comments section so that we know you purposely left the question blank.

In this survey, we will be asking for data over the period 1/1/2017 to 12/31/2018. Please provide data beginning the later of 1/1/2017 and when your AU program began. If you are not able to provide data through 12/31/2018, please provide the data through as long as you can and provide this date in the Comment section. For example, you have information through 11/30/2018 and it would be difficult for you to create the data as of 12/31/2018. In this case, provide the data through 11/30/2018 and let us know that is what you did in the Comments section.

PLEASE <u>RESPOND</u> TO THIS SURVEY <u>BY</u> THURSDAY <u>FEBRUARY 28, 2019</u>

Thank you for taking time to complete this survey. Please contact Al.klein@milliman.com (312) 499-5731 or Karen.rudolph@milliman.com (402) 361-1515 with any questions.

Company Name   _____

Name of contact (in case we have any questions)   _____

Phone number of contact   _____

Email address of contact   _____

Please provide the following information regarding your plans for AU programs. Indicate all that apply.

Working on development:

We are currently working on the development of an AU program.

We plan to begin work on the development of one or more AU programs within the next two years.

We have no current plans to develop one or more AU programs in the next two years.

Implementation:

We plan to implement an AU program within the next two years.

We plan to implement an AU program, but more than two years from now.

We plan to implement an AU program, but are not sure when that will be.

We are not sure if we will implement an AU program.

We have no current plans to implement an AU program.

Outside involvement in development:

We have involved or will involve one or more outside parties to help in the development of an AU program.

We are not sure if we will involve one or more outside parties to help in the development of an AU program.

We are or will develop an AU program using only internal resources.

Comments:

_____

If you <u>do not</u> currently have an Accelerated Underwriting program in production or test mode, please submit your entry.
If you <u>do</u> currently have an Accelerated Underwriting program, continue the survey on the next page.

Overview

In most of the questions below, we ask for responses on your company's most prevalent AU program. However, the first question asks for information on all of your AU programs.

Each question includes a place for comments. Please use this to provide any explanatory comments.

"AU Eligible" Applications

For a number of questions in this survey, we will use the term "AU eligible" applications. "AU eligible" applications means applications for life insurance where:

(1) an AU program is available,

(2) age and amount requirements for the AU program are met,

(3) an agent opts into the program either explicitly or implicitly by going through a specific process (such as a tele-interview), and

(4) an agent cannot opt-out of the program once the application has been submitted.

In other words, we only want to count policies that could potentially have their underwriting requirements waived under an AU program. For example, if an applicant applied for a $2 million policy under a product that only allowed underwriting requirements up to $1 million, this policy would not be considered "AU eligible" and therefore should not be counted below. An additional example would be where an agent had two applications that could be submitted through an AU program and they submitted one through the program and opted out of submitting the other through the program. Only the one that opted in would be considered "AU eligible".

When "AU eligible" applications are intended in a question, the phrase will be contained in quotes as a reminder.

ACCELERATED UNDERWRITING PLANS

A1a. **Please complete the following table for all of your AU programs currently in production. This includes programs in test mode, but excludes those currently in development. Also exclude any AU programs terminated prior to 2017. Finally, in the last row of the table, please indicate your most prevalent AU program (i.e., the AU program with the highest level of sales by policy count).**

AU Program	Month/ Year AU Program Began (mm/yyyy)	Is AU Program Still in Test Mode?	# of "AU Eligible" Applications Received by Policy Count 1/1/ 2017 to 9/30/2018 (Include both waived and fully u/w policies. Round to nearest 100.)	Limits for AU Program			
				Issue Age Range	Face Amount Range	Nonsmoker Risk Class Range[1]	Smoker Risk Class Range[1]
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
Indicate the number of the AU program that is your most prevalent AU program. _____							

Comments:

_____

[1] Respond with the number of risk classes that are eligible for AU. For example, if the product has 4 NT classes and 2 SM classes, and this program allows only the best two NT classes and best SM class to qualify, answer "1-2 of 4" in the column for nonsmokers and "1 of 2" in the column for smokers.

A1b. Please indicate the product type(s) each AU program (from 1a) is sold in. The numbering of the AU programs in A1a and A1b should be consistent. Indicate all that apply.

Product Type	AU Program									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Level Term	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Par/Nonpar Whole Life	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Interest Sensitive Whole Life	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Universal Life with Secondary Guarantees	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
All Other Universal Life	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Variable Life, including Variable Universal Life	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Equity Indexed Life	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other _____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Comments:

_____

A1c. Please indicate the distribution channel(s) each AU program (from A1a) is sold in. The numbering of the AU programs in A1a, A1b, and A1c should be consistent. Indicate all that apply.

Distribution Channel	AU Program									
	1	2	3	4	5	6	7	8	9	10
Bank / Financial Institution	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Broker-Dealer / Wire house	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Career / Captive	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Direct Marketing / Internet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Financial Planner	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Independent Agent / Broker	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Multiple Line	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PPGA	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other 1_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other 2_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other 3_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Comments:

_____

A1d. What percentage of all of your fully underwritten life insurance applications are "AU eligible" applications?

⬤ 1-25%   ⬤ 26-40%   ⬤ 41-60%   ⬤ 61-75%   ⬤ 76-100%

Comments:

_____

WAIVING OF UNDERWRITING REQUIREMENTS

FOR THE REMAINDER OF THE QUESTIONS IN THIS SECTION (UNLESS OTHERWISE INDICATED), BASE YOUR ANSWERS ON THE MOST PREVALENT AU PROGRAM IDENTIFIED AT THE BOTTOM OF A1A.

A2. Indicate the percentage of cases that you expected to have underwriting requirements waived from 1/1/2017 to 12/31/2018 among all "AU eligible" applications for your most prevalent AU program, and the percentage you actually experienced. Note that once we receive all of the answers to this question, we will group the percentages and not show individual company results.

	Percentage of "AU eligible" applications where underwriting requirements are waived during time period 1/1/2017 to 12/31/2018		
	Issue ages through 50	**Issue ages over 50**	**All Issue ages**
Expected			
Actual			

Comments:

_____

ALGORITHMS

THE TERM "ALGORITHM" WILL BE USED IN SOME OF THE FOLLOWING QUESTIONS. "ALGORITHM" IS THE PROCESS THAT INVOLVES THE USE OF RULE SETS/TOOLS/CALCULATIONS TO DETERMINE WHO QUALIFIES TO HAVE THEIR UNDERWRITING REQUIREMENTS WAIVED AND IF THEY ARE WAIVED, WHAT RISK CLASS THEY QUALIFY FOR.

A3. For your most prevalent AU program, do you use:

one algorithm for determining both whether the applicant qualifies to have their requirements waived and what risk class they would qualify for, or

two separate algorithms (e.g., one to determine whether the applicant qualifies to have their requirements waived and one to determine risk class)

more than two algorithms, please explain _____

Comments:

_____

A4. Who created your algorithm(s) for your most prevalent AU program? Indicate all that apply.

Resource	Involved in Creation
Internal Actuary	☐
Internal Data Scientist	☐
Internal Underwriter	☐
Consultant(s)	☐
Reinsurer(s)	☐
Vendor(s)	☐
Other 1_____	☐
Other 2_____	☐

Comments:

_____

A5. Complete this table by indicating all of the tools used in your most prevalent AU program algorithm(s) for determining both (i) if the underwriting requirements can be waived and (ii) the risk class that would be used. Indicate all that apply in both columns.

Tool	Used as criteria for Waiving Requirements	Used for Risk Class Determination
Application (Paper)	☐	☐
Application (Electronic)	☐	☐
Application (Tele-underwriting interview)	☐	☐
Consumer data	☐	☐
Credit data	☐	☐
Identification (authentication)	☐	☐
Identification (verification)	☐	☐
MIB	☐	☐
MVR	☐	☐
Prescription histories	☐	☐
Propensity to smoke model	☐	☐
Other 1_____	☐	☐
Other 2_____		

Comments:

_____

Mortality, Lapse, Not Takens and Expenses

ASSUMPTIONS ARE A VERY CRITICAL PART OF ANY PROGRAM. THEY ARE ESPECIALLY IMPORTANT FOR NEW PROGRAMS WHERE ONE DOESN'T HAVE PAST EXPERIENCE. PLEASE PROVIDE GENERAL INFORMATION ON YOUR ASSUMPTIONS FOR MORTALITY AND NOT TAKEN RATES FOR YOUR MOST PREVALENT AU PROGRAM BELOW.

A6a. For your most prevalent AU program, how does your pricing mortality assumption for the policies that have the underwriting requirements waived compare to the pricing mortality assumption on the policies that do not get the underwriting requirement waived (including random holdouts), for both the best preferred nonsmoker risk class and all risk classes in aggregate? Please divide rather than subtract to determine the percentage. Choose the best response.

How does your pricing mortality assumption for policies that have the underwriting requirements waived compare to the pricing assumption on policies that do not get the underwriting requirements waived (including random holdouts)?

Risk Class	The pricing assumptions for policies that have the underwriting requirements waived are:					
	>10% Lower	1-10% Lower	The same	1-10% Higher	>10% Higher	Do Not Know
Best Preferred NS						
All Risk Classes						

Comments:

_____

A6b. For your most prevalent AU program, please provide the number of contestable and non-contestable claims incurred between 1/1/2017 and 12/31/2018. We will summarize these results in ranges, once we analyze the responses.

Type of Claim	1/1/2017 to 12/31/2018 Number Claims on Most Prevalent AU Program		
	Paid	Pending	Rescinded
Contestable			
Non-contestable			

Comments:

_____

A6c. For your most prevalent AU program, how does your mortality experience compare your pricing mortality assumptions used in A6a across all risk classes in aggregate for both the policies that have the underwriting requirements waived and the policies that do not get the underwriting requirements waived (including random holdouts)? Please divide rather than subtract to determine the percentage. Choose the best response.

Comparison	How does your mortality experience compare to your pricing mortality assumptions? The mortality experience is:					
	>10% Lower	1-10% Lower	The same	1-10% Higher	>10% Higher	Do Not Know
Policies with underwriting requirements waived						
Policies that do not get the underwriting requirements waived (including random holdouts)						

Comments:

_____

A7a. For the male best nonsmoker and second best nonsmoker risk classes, on your most prevalent AU program, how does your lapse <u>assumption</u> for the policies that have the underwriting requirements waived compare to the lapse assumption on the policies that go through full underwriting (including random holdouts)? If the lapse assumption on policies that have underwriting requirements waived is 3% and the lapse assumption on the fully underwritten business is 4%, express your response as "– 1%" (i.e., 3% - 4%). Please subtract rather than divide.

Risk Class	Difference between lapse assumption for policies that have underwriting requirements waived and those that go through full underwriting					
	Duration 1	Duration 2	Duration 3	Duration 4	Duration 5	Do Not Know
Male Best NS						
Male Second Best NS						

Comments:

_____

A7b. Please provide the number of lapses incurred on your most prevalent AU program between 1/1/2017 and 12/31/2018. We will summarize these results in ranges, once we analyze the responses.

Risk Class & Period	1/1/2017 to 12/31/2018 Number of Lapses on Most Prevalent AU Program
Male Best Preferred Durations 1-2	
Male Best Preferred Durations 3+	
All Risk Classes Durations 1-2	
All Risk Classes Durations 3+	

Comments:

_____

A7c. For your most prevalent AU program, how does your lapse experience for the policies that have the underwriting requirements waived differ from what you expected and to the experience on policies that were fully underwritten (including random holdouts) over the same period? If your experience for policies that qualified to have requirements waived was 7% and you expected the lapse rate to be 5%, express your response as "2%". Please subtract rather than divide.

Comparison	How does your lapse experience on those policies that qualified to have requirements waived differ?					
	Duration 1	Duration 2	Duration 3	Duration 4	Duration 5	Do Not Know
To expected						
To fully underwritten						

Comments:

_____

A8. Complete this table by indicating the incomplete, withdrawn and not taken percentages for each of the categories listed for your most prevalent AU program. Please use the following definitions in answering this question. If you are not able to provide answers using these splits and need to combine them in your response, please do so and explain what you did in the Comments section below.

- o **Incomplete:** Applicant did not provide enough information for the algorithm/underwriter to make a decision (the case usually is changed to Incomplete after a waiting period)
- o **Withdrawn:** The applicant withdraws their application either pre or post the underwriting decision
- o **Not Taken:** The applicant receives the policy but opts not to sign it or surrenders during the free-look period. The latter might be difficult for companies to retrieve since it often resides in the Inforce Admin system rather than the New Business system

Category	Percentage		
	Incomplete	Withdrawn	Not Taken
This (these) product(s) overall prior to Accelerated Underwriting			
Under Accelerated Underwriting, for those who <u>do not qualify</u> to have their requirements waived			
Under Accelerated Underwriting, for those who <u>do qualify</u> to have their requirements waived			

Comments:

_____

A9a. Indicate whether or not you considered, for pricing purposes, the following expenses in the development of your most prevalent AU program. Feel free to explain any responses further in the Comments section below the question.

AU program Expenses			
Expense Considered?	Yes	No	Do Not Know
Additional data sources			
Design of program			
Development of algorithm(s)			
Implementation of program			
Fluid testing			
Medical/paramedical exam			
Underwriters' time			
Other 1_____			
Other 2_____			

Comments:

_____

A9b. Did you amortize the cost of developing the program?

        Yes   No   Do Not Know

Comments:

_____

Random Holdouts and Post-issue Audits

One concept common to Accelerated Underwriting is random holdouts. Random holdouts are where a company decides to put an applicant, who has qualified to have their requirements waived, through full underwriting. This is typically done randomly, e.g., every 10th case, every 25th case, etc.

Another concept that is common in Accelerated Underwriting is post-issue audits. Post-issue audits are when an insurance company collects additional information on the applicant after the policy has been issued, e.g., an APS, to help determine if they missed any important information when they waived the underwriting requirements for that applicant.

This next set of questions explores these concepts.

A10. In this question, we would like to receive information on your random holdouts and post-issue audits. For your most prevalent AU program, we are looking for both the number and percentage of cases where random holdouts and post-issue audits were done. For post-issue audits, we have split this into those targeted and those actually completed because we realize that sometimes a post-issue audit cannot be completed. Base your percentage on the number of policies provided divided by the total "AU eligible" policies. Please respond based on experience from 1/1/2017 to 12/31/2018. Please express 10 percent as "10%" rather than 0.10.

Test	Number of Cases Tested in 1/1/2017 to 12/31/2018				Percentage of Cases	Do Not Keep Track of	Do Not Know
	None	1-99	100-999	1000+			
Random Holdouts							
Post-issue audits Targeted							
Post-issue audits Completed							

Comments:

_____

A11. For the cases identified in A10, please provide further details on the results of the random holdouts and post-issue audits. We are looking for percentages of various categories of both positive and negative findings. If you cannot provide the detail, please indicate the percentage of positive and negative findings in the aggregate columns. Please express 10 percent as "10%" rather than 0.10.

Percentage of Findings in 1/1/2017 to 12/31/2018

| Test | Positive Findings | | | | |
	Better	As Expected	Aggregate	Do Not Keep Track of	Do Not Know
Random Holdouts					
Completed Post-issue audits					

Percentage of Findings in 1/1/2017 to 12/31/2018

| Test | | | Negative Findings | | | | |
	Worse Risk Class	Smoker	Substandard	Decline	Issue in Aggregate	Do Not Keep Track of	Do Not Know
Random Holdouts							
Completed Post-issue audits							

Comments:

_____

A12. For the cases that do not qualify to have requirements waived in your most prevalent AU program, do you keep track of the reason why and/or source that the applicant did not qualify?

Reason: Yes   No   Do Not Know

Source: Yes   No   Do Not Know

And if yes, do you provide this information to the applicant and/or agent?

Reason: Yes   No   Not Applicable

Source: Yes   No   Not Applicable

Comments:

_____

A13. Why do you conduct post-issue audits? Please rank the top 3 reasons, with 1 being the most important.

Reasons for Conducting Post-issue Audits	Rank
To be able to determine the percentage of the cases that slipped through	
To be able to determine the magnitude of the cases that slipped through	
To determine if the applicant smokes	
To determine the weaknesses in our underwriting process	
To be able to quickly catch errors and make changes	
Other companies do it	
We do not conduct them	

Comments:

_____

A14. What tools do you use to conduct your post-issue audits? Indicate all that apply.

Tool	Check all tools used
APS	
Consumer data	
Credit data	
Identification check	
Inspection report	
MIB Checking Service	
MIB Plan F Follow up	
MVR	
Prescription histories	
Telephonic follow-up with insured	
Other 1 _____	
Other 2 _____	

Comments:

_____

A15a.   If a post-issue audit finds that the case should have been declined, do you:

rescind it in all circumstances   rescind it in some circumstances   never rescind it

Comments:

_____

A15b. Indicate the reasons you will rescind a policy under your AU programs:

Material nondisclosure

Material misrepresentation

Rescind for other reasons _____

Not applicable, never rescind

Comments:

_____

A15c. How do you expect misrepresentation and fraud on your AU programs to compare to that on your traditional programs?

AU programs will have:

Material nondisclosure	Less	Same	More	Do Not Know
Material misrepresentation	Less	Same	More	Do Not Know
Fraud	Less	Same	More	Do Not Know

Comments:

_____

General Questions

A16. Did you file your AU application to allow for flexibility, i.e., not having to refile for changes?

Yes, as much as we could

Yes, to a limited extent

No

Do not know

Comments:

_____

A17. In column 1, indicate if you have changed your most prevalent AU program in 2017 or 2018 by marking "C". If you are currently working on a change and/or are planning to change your most prevalent AU program (including designing a new program) in the next year, indicate this in column 1 by marking "P". Please indicate the type of change as described in the next two columns. Indicate all that apply.

Item	In 2018, the AU program has been changed (C) or plans to be changed (P)	Was the change or will the change be a new addition (A), deletion (D), or another change (O)?	Were the changes or will the changes be more restrictive (M), less restrictive (L), or an update/ clarification (U)?	Do Not Know
Algorithm				☐
Application information used				☐
Application - Way information collected (i.e., electronic, paper, etc.)				☐
Claims/rescission practices				☐
Consumer data				☐
Credit data				☐
Data sources				☐
Distribution channel				☐
Face amount limits				☐
Identification check				☐
Instant decision				☐
Issue age limits				☐
MIB				☐
MVR				☐
Post-issue audits				☐
Prescription histories				☐
Product				☐
Propensity to smoke model				☐
Random holdouts				☐
Risk classes that can qualify for waiver of requirements				☐
Vendor score(s)				☐
Other 1 _____				☐
Other 2 _____				☐

Comments:

_____

A18. What were your five biggest challenges in designing/developing your AU program? You can answer this question any way you want (e.g., by level of difficulty, by time, etc.). Please rank your top five, using a 1 for the biggest challenge, a 2 for the next biggest challenge, etc.

Potential Challenges	Rank (1-5)
Agent buy-in	
Assumption setting	
Catching smokers who lie about smoking	
Catching liars/clean-sheeters in general	
Creating algorithm	
Deciding what data to use	
Deciding what vendor to use	
Design of program	
Determining lapse assumptions	
Determining mortality assumptions	
Emerging data sources	
Ensuring mortality is close to expected	
IT/Systems to implement program	
IT/Systems to manage/monitor program	
Internal actuarial buy-in	
Internal Underwriter buy-in	
Management buy-in	
Other internal stakeholder buy-in	
Post-issue audits	
Rescissions from post-issue audit findings	
Random holdouts	
Reinsurer buy-in	
Vendor buy-in	
Other 1_____	
Other 2_____	
Other 3_____	

Comments:

_____

A19a. **Would you be interested in participating in an AU industry mortality study in 2019?**

⊙ Yes   ⊙ No   ⊙ Maybe

A19b. **How many claims did you have across all of your AU programs 1/1/2017 – 12/31/2018?*** _____

A19c. **Do you track changes within your AU program(s) in your experience studies?**

⊙ Yes   ⊙ No   ⊙ Do Not Know

Comments:

_____

* The reason for asking this question is to determine if there are enough claims in aggregate, among those willing to participate in the study, to actually do an experience study now or if we will need to wait for another year or two.

For this section, we are interested in your response based on all of your AU programs in aggregate (if you have more than one), rather than the most prevalent AU program. We would like to understand the context of your company's status with respect to principle-based reserving (PBR) and VM-20 mortality assumption setting.

B1a. **Of the choices listed below, check all that apply to your company's situation in regards to <u>all</u> the company's policies/products in scope of VM-20, regardless of underwriting approach.**

☐   Have determined the mortality assumption appropriate for VM-20 requirements. A statutory valuation on that basis **has been** performed.

☐   Have thought through the mortality assumption appropriate for VM-20 requirements and/or have thought through the VM-20 mortality assumption setting process in the context of pricing. A statutory valuation on that basis **will be** performed in (*indicate the one that applies*)

     ○   2018   ○   2019   ○   2020

☐   Have not performed valuation nor done any pricing on a VM-20 basis, but are in the planning stages and having dialog around what are appropriate assumption-setting approaches.

☐   VM-20 does not apply due to:

         Life PBR Exemption

         Other (please describe_____

Comments:

_____

B1b. **Of the choices listed below, check all that apply to your company's situation for the products <u>using an AU program.</u> Provide additional thoughts in the comment section as necessary.**

☐   Have determined the mortality assumption appropriate for VM-20 requirements. A statutory valuation on that basis **has been** performed.

☐   Have thought through the mortality assumption appropriate for VM-20 requirements and/or have thought through the VM-20 mortality assumption setting process in the context of pricing. A statutory valuation on that basis **will be** performed in (*indicate the one that applies*)

     ○   2018   ○   2019   ○   2020

☐   Have not performed valuation nor done any pricing on a VM-20 basis, but are in the planning stages and having dialog around what are appropriate mortality assumption-setting approaches for a product using an AU program.

☐   VM-20 does not apply to the products using an AU program due to:

         Life PBR Exemption

         Other (please describe_____

Comments:

_____

B2a. In determining <u>credibility</u> for VM-20's company experience mortality assumption, are policies issued using the AU program combined with policies that are traditionally underwritten (or will they be if you have not yet done this)?

    ○ Yes   ○ No   ○ Yet to be Determined

Comments:

_____

B2b. Recent proposed changes to VM-20 Section 9.C.4 (APF 2018-17) introduce considerations for determining the similarity of underwriting processes when determining credibility. If you answered the question B2a. "Yes" or "Yet to be Determined", describe the rationale used (or plan to use) to support combining policies. Indicate all that apply.

Reinsurance experience data

Published medical or clinical study

Actuarial study

Industry study

Retrospective demonstration using own company data

Other (please comment) _____

B2c. Describe the level of partial credibility of the block which includes the AU policies:

    0-20% credible   21-50% credible   51+ credible

Comments:

_____

B3a. For the AU-issued policies, the VM-20 anticipated <u>*company experience mortality*</u> assumption (before margins) is: (check the choice that most closely applies).

The same as for traditionally underwritten business

Not the same as traditionally underwritten policies, because we treat the AU as a separate (stand- alone) segment.

Other _____

Comments:

_____

B3b. For the AU-issued policies, the <u>margin</u> applied to VM-20 anticipated *company experience mortality* assumption is: (check the choice that most closely applies)

☐ The same as for traditionally underwritten business

☐ The same as for traditionally underwritten business, but with an additional margin beyond the VM-20 prescribed margin, for uncertainty

☐ Not the same as traditionally underwritten policies, because we treat the AU as a separate (stand-alone) segment. If this response is checked, please also indicate:

VM-20 prescribed margins are used and deemed sufficient

VM-20 prescribed margins *and* an additional margin are used for these policies

☐ Other _____

Comments:

_____

B4. For the AU-issued policies, the VM-20 <u>industry mortality</u> assumption is determined by: (check the choice that most closely applies)

☐ We combine AU with traditionally underwritten policies and use the same industry RR mortality tables as are used for traditionally underwritten business

☐ We combine AU with traditionally underwritten policies and use a higher industry RR mortality table than used for traditionally underwritten business (i.e. higher mortality rates)

☐ We combine AU with traditionally underwritten policies and use a lower industry RR mortality table (i.e. lower mortality rates)

☐ We treat the AU as a separate (stand-alone) segment and the assumption is:

Better (lower rates overall) than the industry table used for traditionally underwritten business

Worse (higher rates overall) than the industry table used for traditionally underwritten business

The same as the industry table used for traditionally underwritten business

Other_____

Comments:

_____

B5. For the AU-issued policies, indicate all individuals/groups that are (or were) involved in your VM-20 mortality assumption development and review process. Use an 'x' or a '1' if the same individual/group completed both the development and review. However, if a different individual/group completed the development and review, use a '1' for the development and a '2' for the review.

Individual/Group	Development	Review
Internal		
Consultant		
Reinsurer		
Vendor		
Other _____		

Comments:

_____

B6. For the AU-issued policies, indicate the source(s) of data used to establish mortality expectations. These would be data sources that influence your VM-20 mortality assumptions. <u>**Check all that apply**</u>.

Our company's own internal experience data for only policies issued through AU programs

Our company's own internal experience data not written through an AU program (example: the traditionally underwritten policies)

Published medical, clinical, actuarial, or industry studies that demonstrate mortality expectations for policies issued through AU programs as compared to those issued through previously established underwriting processes

Retrospective demonstrations (i.e. statistical analyses, predictive model back-testing, other modeling methods) that demonstrate mortality expectations for policies issue through AU programs as compared to those issued through previously established underwriting processes

Consultant(s) have provided the company with its basis for expected mortality for policies issued through AU programs

Reinsurer(s) have provided the company with its basis for expected mortality for policies issued through AU programs

Other_____

Comments:

_____

General Comments on the Survey Overall:

_____

Thank you for your participation. Please submit your completed survey by Thursday February 28, 2019 by clicking the submit button at the top of the screen.

APPENDIX C REINSURER SURVEY

Accelerated underwriting (AU) programs in the life insurance industry generally began 5-6 years ago, primarily to make the purchase of life insurance easier and quicker. There are different approaches being used to accomplish this and the early programs have evolved over the short time of their existence.

A separate survey is being conducted with direct companies to determine their current AU practices. We would also like to collect your thoughts on AU programs and hope that you can complete this short survey.

We have tried to avoid questions seeking proprietary information. Responses will <u>not</u> be shared directly in the report or with other survey respondents. The name of your company will only be identified at the end of the report as a participant. Please respond to as many items as possible, and include explanatory notes where needed in the Comments section of each question. Please use additional space, if needed, to provide your comments.

By Accelerated Underwriting (AU), we are referring to any fully underwritten life insurance program that allows some applicants to forgo having a medical or paramedical exam and providing fluids, if they meet certain requirements and/or meet a certain pre-determined threshold.

PLEASE <u>RESPOND</u> TO THIS SURVEY <u>BY</u> THURSDAY <u>FEBRUARY 28, 2019</u>

Thank you for taking time to complete this survey. Please contact Al.klein@milliman.com (312) 499-5731 or Karen.rudolph@milliman.com (402) 361-1515 with any questions.

Company Name   _____

Name of contact (in case we have any questions)   _____

Phone number of contact   _____

Email address of contact   _____

A1. **An important issue with Accelerated Underwriting (AU) is what to expect for mortality. What is your opinion on this? Please respond to each row by placing an "L" (to represent the low end of the expected range across your clients) and an "H" (to represent the high end of the expected range across your clients) in the appropriate column to signify the range of mortality you expect to see across your clients. Note that the L and H can be placed in the same column or different columns, as appropriate. For example, if you expect that your clients will exhibit mortality ranging from 5% lower to 20% higher, place an L in the "1-10% Lower" column and an H in the "More than 10% and up to 20% Higher" column for that question.**

Item	Relative to current fully underwritten mortality business issued through 2018 (and disregarding mortality improvement), for the item described in each row, in 2023 (i.e., 5 years from now), do you expect this item to be:									
	More than 50% Lower	More than 20% and up to 50% Lower	More than 10% and up to 20% Lower	1-10% Lower	Within 1% in either direction	1-10% Higher	More than 10% and up to 20% Higher	More than 20% and up to 50% Higher	More than 50% Higher	Do Not Know
Policies where requirements were waived under an AU program										
Policies under an AU program with full underwriting (including random holdouts)										

Comments:

_____

A2. **As the available data and modeling capabilities grow, do you anticipate needing to revise your external underwriting manual (e.g., adding a section on AU)? If you anticipate that it will be needed, also indicate when you think it will be completed. Select the response that best represents your situation.**

Yes, we have already revised our manual.

Yes, within the next year.

Yes, within the next 2-3 years.

Yes, but not within the next few years.

No, we do not believe it will need to be updated for this.

We are not sure at this time.

Not applicable/we do not have an external underwriting manual.

Comments:

_____

A3. Another issue with (AU) is what to expect for lapse rates. What is your opinion on this? Please respond to each row by placing an "L" (to represent the low end of the expected range across your clients) and an "H" (to represent the high end of the expected range across your clients) in the appropriate column to signify the range of lapse rates you expect to see from your clients. Note that the L and H can be placed in the same column or different columns, as appropriate. Also, note that for the this question, a 1% change in lapse rates means moving, for example, from 3% to either 2% or 4%.

Item	Relative to current fully underwritten business issued through 2018, for the item described in each row, in 2023 (i.e., 5 years from now), do you expect this item to be:					
	More than 3% Lower	1-3% Lower	Within 1% in either direction	1-3% Higher	More than 3% Higher	Do Not Know
Aggregate lapse rates on policies issued where requirements were waived under an AU program						
Aggregate lapse rates on policies issued under an AU program with full underwriting (including random holdouts)						

Comments:

_____

A4. Please answer the following questions:

    a. Do you currently assist companies in building a pilot Accelerated Underwriting program?

        Yes   No   Do Not Know

    b. If no, do you plan to help companies in the future on this?

        Yes   No   Do Not Know

    c. Will you support (through reinsurance) a pilot program for Accelerated Underwriting?

        Yes   No   Do Not Know

    d. If no, do you plan to help companies in the future on this?

        Yes   No   Do Not Know

Comments:

_____

A5. Please indicate the components of an AU program that have the most impact on mortality outcomes. Choose up to 5 of the components. Indicate "1" for the component that will have the most impact among the five chosen, and "5" for the least impact among the five.

AU Components	Rank
Algorithm used	
Application data	
FCRA approved data	
Non-FCRA approved data	
Post-issue audits	
Qualification percentage goal	
Random holdout program	
Training completed	
Other 1 _____	
Other 2 _____	
Other 3 _____	

Comments:

_____

A6. Please rank from 1-6, what you think are the six most important items/tools for the success of AU programs. Indicate 1 for the most important item and 6 for the sixth most important.

Items	Rank
Credit data	
Criminal data	
Demographic data	
Electronic Health Records	
Financial data	
Identification check	
Inspection report	
MIB	
MVR	
Post-issue underwriting	
Predictive algorithm(s)	
Prescription (Rx) histories	
Random holdouts	
Smoker propensity model	
Social media	
Wearables	
Other 1 _____	
Other 2 _____	
Other 3 _____	

Comments:

_____

A7. Please indicate the information currently provided to you and the quality of that information by providing the percentage of direct companies in each quality category. For example, if 10 direct companies provide information on their random holdouts and eight of those are of really good quality, one is adequate, and one is of poor quality, you would indicate 80%, 10%, 10% for Excellent Quality, Average Quality, and Poor Quality, respectively.

	Total Number of Direct Companies Currently Providing Information	Percentage:			None Currently Provide This
		Excellent Quality	Average Quality	Poor Quality	
Acceleration rates					
Placement rates					
Random holdouts					
Post-issue audits					

Comments:

_____

A8. What are the top 3-5 pieces of advice you would like to provide direct companies on the design, implementation, or overall success of their AU program(s)?

Comments:

_____

For this section, we are interested in your response based on all of your AU programs in aggregate. We would like to understand the context of your company's status with respect to principle-based reserving (PBR) and VM-20 mortality assumption setting.

B1a. **Of the choices listed below, check all that apply to your company's situation in regards to <u>all</u> the company's policies/products in scope of VM-20, regardless of underwriting approach.**

☐   Have determined the mortality assumption appropriate for VM-20 requirements. A statutory valuation on that basis **has been** performed.

☐   Have thought through the mortality assumption appropriate for VM-20 requirements and/or have thought through the VM-20 mortality assumption setting process in the context of pricing. A statutory valuation on that basis **will be** performed in (*indicate the one that applies*)

     ○ 2018   ○ 2019   ○ 2020

☐   Have not performed valuation nor done any pricing on a VM-20 basis, but are in the planning stages and having dialog around what are appropriate assumption-setting approaches.

☐   VM-20 does not apply due to:

         Life PBR Exemption

         Other (please describe_____

Comments:

_____

B1b. **Of the choices listed below, check all that apply to your company's situation for the products <u>using an AU program.</u> Provide additional thoughts in the comment section as necessary.**

☐   Have determined the mortality assumption appropriate for VM-20 requirements. A statutory valuation on that basis **has been** performed.

☐   Have thought through the mortality assumption appropriate for VM-20 requirements and/or have thought through the VM-20 mortality assumption setting process in the context of pricing. A statutory valuation on that basis **will be** performed in (*indicate the one that applies*)

     ○ 2018   ○ 2019   ○ 2020

☐   Have not performed valuation nor done any pricing on a VM-20 basis, but are in the planning stages and having dialog around what are appropriate mortality assumption-setting approaches for a product using an AU program.

☐   VM-20 does not apply to the products using an AU program due to:

         Life PBR Exemption

         Other (please describe_____

Comments:

_____

B2a. In determining <u>credibility</u> for VM-20's company experience mortality assumption, are policies issued using the AU program combined with policies that are traditionally underwritten (or will they be if you have not yet done this)?

      ○ Yes   ○ No   ○ Yet to be Determined

Comments:

_____

B2b. Recent proposed changes to VM-20 Section 9.C.4 (APF 2018-17) introduce considerations for determining the similarity of underwriting processes when determining credibility. If you answered the question B2a. "Yes" or "Yet to be Determined", describe the rationale used (or plan to use) to support combining policies. Indicate all that apply.

      Reinsurance experience data

      Published medical or clinical study

      Actuarial study

      Industry study

      Retrospective demonstration using own company data

      Other (please comment) _____

B2c. Describe the level of partial credibility of the block which includes the AU policies:

      0-20% credible   21-50% credible   51+ credible

Comments:

_____

B3a. For the AU-issued policies, the VM-20 anticipated <u>*company experience mortality*</u> assumption (before margins) is: (check the choice that most closely applies).

      The same as for traditionally underwritten business

      Not the same as traditionally underwritten policies, because we treat the AU as a separate (stand- alone) segment.

      Other _____

Comments:

_____

B3b. For the AU-issued policies, the <u>margin</u> applied to VM-20 anticipated *company experience mortality* assumption is: (check the choice that most closely applies)

☐ The same as for traditionally underwritten business

☐ The same as for traditionally underwritten business, but with an additional margin beyond the VM-20 prescribed margin, for uncertainty

☐ Not the same as traditionally underwritten policies, because we treat the AU as a separate (stand-alone) segment. If this response is checked, please also indicate:

   VM-20 prescribed margins are used and deemed sufficient

   VM-20 prescribed margins *and* an additional margin are used for these policies

☐ Other _____

Comments:

_____

B4. For the AU-issued policies, the VM-20 <u>industry mortality</u> assumption is determined by: (check the choice that most closely applies)

☐ We combine AU with traditionally underwritten policies and use the same industry RR mortality tables as are used for traditionally underwritten business

☐ We combine AU with traditionally underwritten policies and use a higher industry RR mortality table than used for traditionally underwritten business (i.e. higher mortality rates)

☐ We combine AU with traditionally underwritten policies and use a lower industry RR mortality table (i.e. lower mortality rates)

☐ We treat the AU as a separate (stand-alone) segment and the assumption is:

   Better (lower rates overall) than the industry table used for traditionally underwritten business

   Worse (higher rates overall) than the industry table used for traditionally underwritten business

   The same as the industry table used for traditionally underwritten business

   Other_____

Comments:

_____

B5. **For the AU-issued policies, indicate all individuals/groups that are (or were) involved in your VM-20 mortality assumption development and review process. Use an 'x' or a '1' if the same individual/group completed both the development and review. However, if a different individual/group completed the development and review, use a '1' for the development and a '2' for the review.**

Individual/Group	Development	Review
Internal		
Consultant		
Reinsurer		
Vendor		
Other _____		

Comments:

_____

B6. **For the AU-issued policies, indicate the source(s) of data used to establish mortality expectations. These would be data sources that influence your VM-20 mortality assumptions. <u>Check all that apply</u>.**

Our company's own internal experience data for only policies issued through AU programs

Our company's own internal experience data not written through an AU program (example: the traditionally underwritten policies)

Published medical, clinical, actuarial, or industry studies that demonstrate mortality expectations for policies issued through AU programs as compared to those issued through previously established underwriting processes

Retrospective demonstrations (i.e. statistical analyses, predictive model back-testing, other modeling methods) that demonstrate mortality expectations for policies issue through AU programs as compared to those issued through previously established underwriting processes

Consultant(s) have provided the company with its basis for expected mortality for policies issued through AU programs

Reinsurer(s) have provided the company with its basis for expected mortality for policies issued through AU programs

Other_____

Comments:

_____

General Comments on the Survey Overall:

_____

Thank you for your participation. Please submit your completed survey by Thursday February 28, 2019 by clicking the submit button at the top of the screen.

About the Society of Actuaries

The Society of Actuaries (SOA), formed in 1949, is one of the largest actuarial professional organizations in the world dedicated to serving more than 30,000 actuarial members and the public in the United States, Canada and worldwide. In line with the SOA Vision Statement, actuaries act as business leaders who develop and use mathematical models to measure and manage risk in support of financial security for individuals, organizations and the public.

The SOA supports actuaries and advances knowledge through research and education. As part of its work, the SOA seeks to inform public policy development and public understanding through research. The SOA aspires to be a trusted source of objective, data-driven research and analysis with an actuarial perspective for its members, industry, policymakers and the public. This distinct perspective comes from the SOA as an association of actuaries, who have a rigorous formal education and direct experience as practitioners as they perform applied research. The SOA also welcomes the opportunity to partner with other organizations in our work where appropriate.

The SOA has a history of working with public policymakers and regulators in developing historical experience studies and projection techniques as well as individual reports on health care, retirement and other topics. The SOA's research is intended to aid the work of policymakers and regulators and follow certain core principles:

Objectivity: The SOA's research informs and provides analysis that can be relied upon by other individuals or organizations involved in public policy discussions. The SOA does not take advocacy positions or lobby specific policy proposals.

Quality: The SOA aspires to the highest ethical and quality standards in all of its research and analysis. Our research process is overseen by experienced actuaries and nonactuaries from a range of industry sectors and organizations. A rigorous peer-review process ensures the quality and integrity of our work.

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