



Mortality  
and Longevity

# 2022 Accelerated Underwriting Practices Survey Report

NOVEMBER | 2023



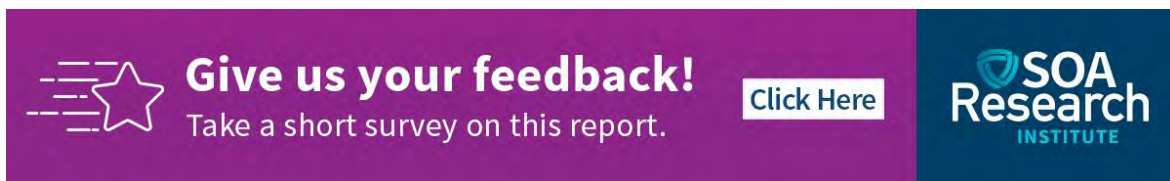
# 2022 Accelerated Underwriting Practices Survey Report



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# 2022 Accelerated Underwriting Practices Survey Report

## Section 1: Executive Summary

Accelerated Underwriting (AU) programs give life insurers new ways of assessing medical and financial risks for some applicants more quickly than traditional underwriting programs. Utilizing technological innovations, AU programs provide a less intrusive experience for an applicant potentially leading to a better consumer experience in the new business process. Increasingly, AU programs are embedded in the underwriting process workflow. This was especially helpful during the COVID-19 pandemic lockdowns when testing and other applicant information was difficult to obtain.

This report documents the results of two surveys conducted by Milliman, Inc. (“Milliman”) on AU practices of direct companies (24 participants) and reinsurers (seven participants). These surveys will be referred to as the “2022 Survey”. It follows an initial Society of Actuaries Research Institute report<sup>1</sup> on this subject released in 2019 (“2019 Survey”). In addition to identifying the recent AU practices of the respondents, the authors compared results of the 2022 Survey with that of the 2019 Survey. These changes are mentioned throughout the report and offer insights into the evolution of AU programs and practices, especially in light of the COVID-19 pandemic.

### 1.1 KEY TAKEAWAYS

Over 70% of the 24 respondents indicated their most prevalent AU program was a new program, while the others indicated it was a modification from a past program. (p.14)

Twenty-two direct companies (out of 24) indicated that they made changes to their AU program between 2020 and 2022. Over one-third of these companies indicated that they modified their AU programs for COVID-19. (p.42)

Six of the seven reinsurers indicated that they thought about half or most of the growth in 2020 and 2021 was in response to COVID-19 while one reinsurer thought only a little of the growth was due to COVID-19. (p.96)

The top 5 types of changes to AU programs from 2020 to 2022 were to the: (p.42)

- Face amount limits: Seventeen of 22 respondents indicated making face amount changes. Eight of these respondents made the change because of COVID-19, and 12 of the respondents indicated the change was less restrictive, i.e., an increase in face amount levels.
- Algorithm: Nine respondents changed their AU algorithm, with 6 respondents indicating making a modification to the algorithm and 4 indicating the change was less restrictive.
- Data sources: Nine respondents changed their data sources with 7 of these respondents indicating the change was a new data source. Responses were split between whether the change was more or less restrictive.
- Issue age limits: Seven of the respondents changed their issue age limits.

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<sup>1</sup> Klein, A. and K. Rudolph. Accelerated Underwriting Practices Survey. 2019. Society of Actuaries. <https://www.soa.org/resources/research-reports/2019/accelerated-underwriting-survey/>

- Random holdouts: Seven of the respondents changed their random holdout practice.

Compared to the 2019 Survey, the most common issue age and face amount levels remained the same, as follows: (p.17)

- Most common minimum issue age is 18. In the current survey, 20 of the 24 participating direct companies provided this response.
- Most common maximum issue age is 60. In the current survey 11 companies provided this response.
- Most common minimum face amount is \$100,000. In the current survey, 12 companies provided this response.
- Most common maximum face amount is \$1,000,000. In the current survey eight companies mentioned this response.

In examining the changes in the average for each of the minimum and maximum issue ages and face amounts since the 2019 survey, the results below show there was an expansion in AU coverage with larger average maximum and a lower average minimum issue age, with one exception (minimum face amount, where there was an increase): (p.17)

- Average minimum issue age decreased from 20 to 16.
- Average maximum issue age increased from 55 to 59.
- Average minimum face amount increased from \$53,000 to \$79,000.
- Average maximum face amount increased from \$800,000 to \$2,100,000.

The five tools most commonly used for waiving fluid tests and/or the medical exam were: (p.49)

- The electronic application (92% of respondents)
- Prescription histories and MIB data (88%)
- MVR data (79%)
- The application/tele-underwriting interview (71%).

The five tools most commonly used for determining the risk class were the same, but in a different rank order: (p.49)

- The electronic application and MVR data (92%)
- Prescription histories (88%)
- The application/tele-underwriting interview (71%)
- MIB data (67%).

Less than two-thirds of the companies indicated they conduct post-issue audits, with the primary reason being to determine cases with misrepresentation or fraud. The primary tool used for conducting post-issue audits was an attending physician statement (APS) (80% of the respondents), but many other tools were used by the companies. In the 2019 Survey, over half of the companies indicated conducting post-issue audits. (p.54-56)

While less than two-thirds of the companies indicated they conduct post-issue audits, the average percentage conducted among AU eligible policies in 2022 was 6%, up slightly from 5% in 2019. On the other hand, random holdouts were conducted on average 4% of the time in 2022, down from 8% in 2019. (p. 62)

Mortality slippage for AU programs was estimated in several ways within the report:

- Direct company ratio of mortality under AU programs to mortality under fully underwritten programs (ranges given). (p.71)
- Direct company estimates of positive and negative findings on random holdouts (calculated based on finding estimates). (p.68)

- Direct company estimates of positive and negative findings on post-issue audits (calculated based on finding estimates). (p.68)
- Reinsurer estimates of slippage from clients with lowest expected mortality (ranges given). (p.97)
- Reinsurer estimates of slippage from clients with highest expected mortality (ranges given). (p.97)

In most cases results were created for individual years 2019-2022. Since using all years would produce even wider results, the most recent year (2022) average results are summarized below:

**Table 1-1**  
**ESTIMATE OF MORTALITY SLIPPAGE IN 2022**

Method	Low	All Companies	High	Number of Respondents
<b>Direct Company Ratio of AU to Fully Underwritten</b>	<-10%	9%	>25%	20
<b>Direct Company Random Holdouts</b>	-4%	17%	70%	15
<b>Direct Company Post-Issue Audits</b>	0%	9%	15%	6
<b>Reinsurer Lowest Mortality Clients</b>	-3%	1%	3%	5
<b>Reinsurer Highest Mortality Clients</b>	>20%	>20%	>20%	5

## Section 2: Introduction

The Society of Actuaries Research Institute (“Institute”) conducted its first survey on Accelerated Underwriting (“AU”) based on practices of both direct companies and reinsurers between January 1, 2017 and September 30, 2018. The report was published in December 2019. All references to the past survey within this report will be to the “2019 Survey”. Comparisons to the 2019 Survey will be made, where appropriate.

Milliman, Inc. (“Milliman”) was hired by the Institute to conduct a follow up survey of both direct companies and reinsurers on industry AU practices between 2019 and 2022. The purpose of this survey was to not only determine how practices have changed, but also how they have changed because of COVID-19. With lockdowns and social distancing, paramedical exams (and even medical exams) became more difficult to complete. As a result, many participating companies were able to extend their AU programs to help overcome the underwriting challenges and those that didn’t have an AU program created one during the COVID pandemic.

The new direct company and reinsurer surveys asked some of the same questions as the 2019 Survey, but also expanded upon the questions asked. All unique terms were defined within the survey and are shown in this report.

The new surveys were also set up to provide the beginning of a collection of historical results, at least for 2019-2021, that can be expanded upon in future surveys. In addition to historical information, opinion questions were also asked.

Several questions were the same for both the direct company and reinsurer surveys. The similarities and differences between direct company and reinsurer responses are identified and discussed in the report.

A survey of regulators was also completed before the direct company and reinsurer surveys. The purpose of this survey was to get regulator opinions on AU programs. The results of this survey are also included in this report.

The report contains the following sections:

- Section 1: Executive Summary provides the key findings of the study.
- Section 2: Introduction contains the background and purpose of the study along with an explanation of the report sections.
- Section 3: Navigating Sections 4 and 5 of the Report explains the structure for presenting the survey results.
- Section 4: Direct Company – AU Practices presents the results of the Direct Company 2022 Survey.
- Section 5: Reinsurer – AU Practices presents the results of the Reinsurer Company 2022 Survey.
- Section 6: Regulator Survey presents the results of the regulator survey.
- Section 7: Acknowledgements recognizes those individuals who contributed to the completion of the study and report.
- Section 8: Listing of Survey Participants recognizes the 24 direct companies and seven reinsurers that participated in the surveys.
- Appendix A: Direct Company Survey provides the 2022 Direct Company Survey questionnaire.
- Appendix B: Reinsurer Survey provides the 2022 Reinsurer Survey questionnaire.
- Appendix C: Regulator Survey provides the 2022 Regulator Survey questionnaire.

### Section 3: Navigating Sections 4 and 5

Much content is presented in the survey results sections of the report. The purpose of this section is to help the reader better navigate sections 4 and 5. Each section begins with an overall summary of the results. Then the remaining subsections provide the detailed survey results which follow a consistent pattern:

- Each topic starts with an introduction of the topic.
- This is followed by a table and/or graph.
- While there are a couple of exceptions (i.e., when we wanted to emphasize the comments), the comments follow the table in smaller font. The comments are shown as provided, again with a few exceptions (i.e., we capitalized the first letter and where needed to clarify something. In this case, the clarification is shown in brackets). The comments are provided in alphabetical order.
- This is followed by our summary and analysis of the findings. Where possible, this analysis also discusses how the results compare to the 2019 Survey.

The subjects are covered in the exact order of the survey. Direct company survey results are in Section 4 and reinsurer survey results are in Section 5. Comparisons between the direct company survey results and reinsurer survey results are in the reinsurer section.

Knowing this order should help you better navigate through the report. For example, you could just look at the tables and make your own conclusions or you could skip to our observations and conclusions. You could certainly skip over the comments if you have limited time.

Averages throughout these sections are arithmetic (i.e., not weighted) averages of the companies that responded to that question. All averages are bold to hopefully allow a better ability to review the averages from year to year. Actual results for 2019, 2020, and 2021 and estimates for 2022 were collected for most items. The total number of respondents is provided in every question to help you better judge the credibility of the results.

Low and high results in each category and for each year may or may not represent the same company for each question with low, average, and high results.

Definitions of terms can be found at the beginning of the subsection where they are first used.

Feel free to contact Milliman (Al Klein or Justin Li) or the Institute (Ronora Stryker) with any questions or suggestions for future AU surveys.



## Section 4: Direct Company – AU Practices

The Direct Company AU Practices survey contained 25 questions on direct company general AU practices, but many of the questions had multiple parts. A summary of the results is provided in subsection 4.1. The remaining subsections provide the actual results for each question. The results will be covered in the order of the survey. Where meaningful, results are compared to the 2019 Direct Company AU Practices survey.

### 4.1 DIRECT COMPANY SURVEY SUMMARY

Twenty-four companies responded to the survey.

Most of the analysis was done on companies' "most prevalent" AU program. This was defined as the AU program with the most sales in 2022.

The most prevalent AU programs were originally introduced between 2013 and 2022. (p.13)

One-third of the companies indicated that they modified their AU programs for COVID-19. (p.14)

The top three products with AU programs were level premium term (88%), universal life-other, i.e., other than secondary guarantee UL (63%), and variable universal life (54%). (p.15)

The top two distribution channels used were career/captive (58%) and independent agent/broker (58%). (p.16)

The most common minimum and maximum issue ages were 18 and 60. These remained the same from the 2019 Survey. (p.17)

The most common minimum and maximum face amounts were \$100,000 and \$1,000,000, but there was a maximum face amount as high as \$7,500,000. The most common face amount levels remained the same from the 2019 Survey. (p.17)

Fifty-four percent of the respondents indicated they had a hybrid AU program on their most prevalent AU program. Based on the comments, in general, a hybrid program can be described as the use of EHR or APS plus underwriter judgement to determine if the applicant can be issued a policy on a fluidless basis. Hybrid AU programs were not asked about in the 2019 Survey. (p.21)

The three risk classes allowed for AU eligible applicants in the most prevalent AU program were nonsmoker best preferred and nonsmoker other preferred (both by 96% of the respondents) and nonsmoker residual standard (88%). The least frequently offered risk class was smoker substandard (17%). (p.24)

The average percentage of AU eligible applications grew from 51% in 2019 to 59% in 2022. The range among all respondents in 2022 was 20% to 100%. (p.26)

Of all AU eligible policies, the average percentage expected to have their fluid tests and/or paramedical exams waived in 2022 was 46%, with a range among the respondents of 13% to 100%. (p.28)

The average withdrawal rate across AU eligible policies was 13%. This compares to a withdrawal rate of 15% on fully underwritten policies. The average withdrawal rate from the 2019 Survey for AU eligible policies was lower than this, i.e., 8% when the requirements were not waived and 4% when they were waived. (p.32)

The average not taken rate for 2019 to 2022 across AU eligible applications ranged from 5% to 6% while the not taken rate for fully underwritten applications in these years ranged from 6% to 7%. The average not taken rate from the 2019 Survey for AU eligible policies was about the same or slightly higher than this, i.e., 9% when the requirements were not waived and 6% when they were waived. (p.34-35)

The top three types of changes to AU programs from 2020 to 2022 were changes to face amount limits (77%) and to the algorithm and data sources (both at 41%). (p.42)

Companies were asked how many algorithms they used to determine whether the applicant qualifies to have tests/exams waived and the risk class the applicant qualifies for. Fifty percent of the respondents indicated they used one algorithm for both. (p.46) This is exactly the same result as in the 2019 Survey.

The top three individuals responsible for developing the AU program were slightly different between this survey and the 2019 Survey. (p.48)

**Table 4-1**

**TOP THREE INDIVIDUALS RESPONSIBLE FOR DEVELOPING THE AU PROGRAM**

Rank	2022 Survey		2019 Survey	
	Individual	Percentage	Individual	Percentage
1	Internal underwriter	58%	Internal underwriter	86%
2	Internal data scientist	54%	Internal actuary	82%
3	Internal actuary	46%	Reinsurer	57%

The internal data scientist was fourth in the 2019 Survey.

The top five tools used for waiving tests/exams and determining the risk class were the same, but in a different rank order. (p.49)

**Table 4-2**

**TOP FIVE TOOLS USED FOR WAIVING TESTS/EXAMS AND FOR DETERMINING THE RISK CLASS (2022 SURVEY)**

Rank	Top Five Tools Used for			
	Waiving Tests/Exams		Determining Risk Class	
		Percentage		Percentage
1	Electronic application	92%	Electronic application	92%
2	MIB data	88%	MVR data	92%
3	Prescription histories	88%	Prescription histories	88%
4	MVR data	79%	Application/tele-underwriting interview	71%
5	Application/tele-underwriting interview	71%	MIB data	67%

Results were similar in the 2019 Survey.

**Table 4-3**

**TOP FIVE TOOLS USED FOR WAIVING TESTS/EXAMS AND FOR DETERMINING THE RISK CLASS (2019 SURVEY)**

Rank	Top Five Tools Used for			
	Waiving Tests/Exams	Percentage	Determining Risk Class	Percentage
1	Prescription histories	92%	MVR data	100%
2	MIB data	92%	Prescription histories	96%
3	MVR data	85%	MIB data	83%
4	Electronic application	81%	Electronic application	83%
5	Tele-underwriting interview	73%	Tele-underwriting interview	83%

Eighty-three percent of the respondents kept track of the reason an applicant doesn't qualify for an AU program, and half of them disclose the reason to an applicant and/or the agent. (p.51) In the 2019 Survey, 88% indicated keeping track of the reason, but only 24% indicated that they disclosed the reason to an applicant and/or the agent. There appears to be an increasing trend in providing this information to the applicant and/or agent.

Sixty-one percent of the respondents indicated that they set their algorithm and data to minimize unfair discrimination. Sixty-five percent of the respondents indicated that they tested for unfair discrimination. (p.53)

Sixty-three percent of the companies indicated they conduct post-issue audits, with the primary reason being to determine cases with misrepresentation or fraud. The primary tool used for conducting post-issue audits is an APS (80% of the respondents), but many other tools are used by the companies. (p.54-55)

The 2019 Survey indicated 56% of the companies conducted post-issue audits, so there appears to be a small increase in usage of post-issue audits. The primary reasons for conducting post-issue audits were to determine the magnitude of cases that slipped through and to determine weaknesses in the underwriting process. Determining cases with misrepresentation or fraud was not a choice in the 2019 Survey. The primary tool used for conducting post-issue audits was an APS (73% of the respondents).

Of the companies responding, the average percentage of random holdouts dropped from 8% in 2019 to 4% in 2021 and 2022. This drop was primarily driven by a large percentage decrease by one company in 2021 and 2022. For post-issue audits, the average increased slightly from 5% in 2019 and 2020 to 6% in 2022. (p.62)

All companies indicated they would rescind an AU policy for material misrepresentation and 83% indicated they would rescind for material non-disclosure. (p.57-58) In the 2019 Survey, these percentages were 92% and 71%, respectively, less than in the current survey.

Of the limited number of responses, most companies felt that material misrepresentation, material nondisclosure, and fraud would all be at about the same levels for AU policies and fully underwritten policies. (p.59-60) A similar question was asked in the 2019 Survey, but it was an opinion rather than experience question. In the 2019 Survey, most thought fraud would be at about the same levels for AU policies and fully underwritten policies, but material misrepresentation and material nondisclosure would be higher for AU policies.

Companies were asked to compare actual lapse rates to expected lapse rates and to actual fully underwritten lapse rates for Durations 1 and 2. When compared to expected, all averages were either at expected (0%) or slightly less than expected (-2%). When compared to fully underwritten, all averages were slightly more than fully underwritten (1% to 3%). However, there was a larger range of differences among the individual companies. (p.79)

Twenty-nine percent of the respondents indicated they saw demographic changes in their business with the introduction of AU programs. There were limited responses to the type of changes, but the two most common were age and face amount of coverage applied for. (p.82-83)

The percentage of new business reinsured was basically the same for AU business and fully underwritten business. (p.84)

Sixty-one percent of the respondents indicated that AU program changes were tracked in their experience studies. (p.85)

Several opinion questions were asked. The top five responses for each of these questions are shown below in rank order:

The top five challenges to designing/developing an AU program were: (p.87)

- IT/Systems to implement the program
- Limiting misclassification
- New or emerging data sources
- Limiting misrepresentation/fraud
- Algorithm creation/development

The top five data sources that best assess mortality for AU programs were: (p.89)

- Prescription history data
- Application data
- MIB data
- Medical claims data
- Electronic health record data

The top five potential tools to combat fraud for AU programs were: (p.90)

- Identification check (identification/verification)
- Post-issue audits
- Random holdouts
- Agent monitoring
- Application question wording

The top five drivers for best design, implementation, and overall success of AU programs were: (p.91)

- Customer experience
- Data collected
- Algorithm used
- Monitoring the business/experience
- Objectives of program are clear

## 4.2 GENERAL INFORMATION

The survey began with a definition of “AU Program”, which is shown below. Other definitions were also provided within the survey and will be shown in this report within the section where they are discussed.

An “AU Program” is a program used for life insurance products where an applicant can have certain underwriting requirements waived, such as forgoing insurance fluid requirements and a paramedical exam, if they meet certain qualifications, typically determined by an algorithm used for this purpose. This algorithm will also typically determine the risk class the applicant will be offered. Simplified issue and guaranteed issue underwriting programs should be excluded from this definition.

Throughout the survey, we asked about the company’s most prevalent AU program. Our definition is provided below.

By “most prevalent AU program” we mean the AU program with the most product sales in 2022.

## 4.3 MOST PREVALENT AU PROGRAM

What month and year did the most prevalent program (the AU program with the most sales in 2022) begin?

Table 4-4

### YEAR MOST PREVALENT AU PROGRAM INTRODUCED

Year Program Began	Number of Companies
2013	1
2014	1
2015	0
2016	3
2017	8
2018	3
2019	0
2020	4
2021	2
2022	2
<b>Total Respondents</b>	<b>24</b>

Respondent Comments:

- 11/2016 is the original version of the program; the latest changes were made in 2020.
- Our AU program is embedded in our Portfolio, not developed for individual products.
- Piloted late 2017, countrywide in early 2018.
- Since inception of our Accelerated Underwriting process in 2015, it has continually improved with new sources of data and models. I really don't see these as "new AU programs", more of an evolution. Nonetheless, in March of 2022, we introduced several new data sources as well and an upgraded version of our internally built model.

Among the participating companies, the first AU program was introduced in 2013. Over half of the AU programs were introduced in 2016-2018. Another third of the programs were introduced in 2020-2022.

Was the most prevalent AU program a modification from a previous AU program or a new program? Select only one.

Table 4-5

**MOST PREVALENT AU PROGRAM IN 2022**

The most prevalent AU program was	Number of Companies
A modification	7
New	17
<b>Total Respondents</b>	<b>24</b>

Respondent Comments:

- Continue to make improvements based on data and user feedback.
- Most recent program expanded face amount to \$3M from \$2M for ages 18-50.
- Program started 2/2018 and modified 11/2020.
- The model is recalibrated annually, but the same program has been in place since 2017.
- Transition from a rules-based exam waiver program.

Over 70% of the companies indicated that their most prevalent AU program was new and less than 30% indicated it was a modification of a previous AU program.

Was the most prevalent AU program created/changed because of COVID-19?

Table 4-6

**RESPONSE TO QUESTION ON CREATING OR CHANGING MOST PREVALENT AU PROGRAM BECAUSE OF COVID-19**

Was the most prevalent program changed/created because of COVID-19?	Number of Companies
Yes	8
No	16
<b>Total Respondents</b>	<b>24</b>

Respondent Comments:

- COVID pushed up the timeline for expanding face amount to \$3M.
- Increased age and face amount.
- There were underlying changes to new business process, but AU program stayed the same through COVID.
- We stopped the program for 4 weeks before implementing changes.
- We tightened from max age 60 to max age 54. Eventually (10/2020) we increased limits from \$1M to \$2M after doing a lot of back testing.

Eight companies introduced AU programs in 2020-2022 and eight companies indicated their most prevalent program was changed or created because of COVID-19. However, only two of the companies introducing AU programs in 2020-2022 indicated that their program was created because of COVID-19, and both of those programs were introduced in 2020.

What product types does the most prevalent AU program cover? Check all that apply.

Table 4-7

**MOST PREVALENT AU PROGRAM PRODUCTS**

Products where most prevalent program offered	Number of Companies
Term – Level Premium	21
Universal Life – Other	15
Variable Universal Life	13
Equity Index Life / Indexed Universal Life	9
Universal Life – with Secondary Guarantees	8
Whole Life – Participating	8
Term – Other	7
Whole Life – Non-participating	5
Variable Life	0
Whole Life – Interest Sensitive	0
<b>Total Respondents</b>	<b>24</b>

Respondent Comments:

- All single life products.
- Single Life products only; No acceleration for Joint products.
- These are essentially all of the product categories for which we have fully underwritten products.
- Used for all life products sold.

The product offered most for the most prevalent AU program (by almost 90% of the respondents) was level premium term. This is not a surprise as many companies first introduced their AU product with a level term product. The next most commonly offered products were universal life-other (over 60% of the respondents) and variable universal life (over 50%).

No companies indicated having an AU program for variable life or interest-sensitive whole life products.

Two companies offered the most prevalent AU program on six types of products. One of those companies provided one of the comments above about it being offered on all products.

Note that this question specifically asked for the products where an AU program was used. It is possible a company offers a product listed above, but without AU. We did not attempt to measure the percentage of AU usage for each type of product, but this could be another question for the next survey.

What distribution channels does the most prevalent AU program cover? Check all that apply.

Table 4-8

**MOST PREVALENT AU PROGRAM DISTRIBUTION CHANNELS**

Distribution channels where most prevalent program offered	Number of Companies
Career / Captive	14
Independent Agent / Broker	14
Direct Marketing / Internet	7
Broker-Dealer / Wire House	5
Call Center	5
Multiple Line	3
Personal Producing General Agent (PPGA)	3
Bank / Financial Institution	1
Other – Affinity	1
InsurTech Distribution	0
<b>Total Respondents</b>	<b>24</b>

Respondent Comments:

- All of our distribution channels.
- We only have one channel.

The most common distribution channels were career/captive and independent agent/broker, both at almost 60% of the respondents. Next most common was direct marketing/Internet at about 30%. Broker-dealer/wire house and call center were next most prevalent at just over 20%.

None of the respondents indicated using the InsurTech distribution channel.

Three companies indicated using five distribution channels for their most prevalent AU program. Note that the company that indicated they used the AU program for all their distribution channels had fewer than five distribution channels.



Provide the minimum and maximum issue age and face amount AU eligibility limits for your most prevalent AU program. If the Issue Age limits vary by product and/or the Face Amount limits vary by Issue Age, please explain the details in the Comments.

Table 4-9

## MINIMUM AND MAXIMUM AGE AND FACE AMOUNT LIMITS

Measure	Minimum	Maximum
<b>Age</b>		
<b>Low</b>	0	49
<b>Average</b>	<b>16</b>	<b>59</b>
<b>High</b>	21	85
<b>Most common</b>	18 (20)	60 (11)
<b>Total Respondents</b>	24	24
<b>Face Amount</b>		
<b>Low</b>	\$1,000	\$50,000
<b>Average</b>	<b>\$79,391</b>	<b>\$2,089,583</b>
<b>High</b>	\$150,000	\$7,500,000
<b>Most common</b>	\$100,000 (12)	\$1,000,000 (8)
<b>Total Respondents</b>	23	24

Respondent Comments:

- 18-50 qualify for max of 2,000,000 and 51-60 qualify for a max of 1,000,000.
- 18-50 up to \$3M; 51-60 up to \$1M.
- \$50k is product minimum for permanent insurance; \$250k is product minimum for term insurance.
- Above age 45 (ages 46-60) the max face amount is 500,000.
- Ages 0-17 limited to \$500K, Term/UL only offered to ages 18-65, Term min face is \$100K.
- Ages 18-39 amounts \$100K-\$1M; ages 40-49 amounts \$100K-\$500K.
- Ages 18-40, \$50k-\$3M. Ages 41-60, \$50k-\$2.5M.
- All products eligible for 18-60 and up to \$2M.
- Face Amounts above are for Term, Limits for WL are 25,000-250,000.
- Face amount on a covered life basis (i.e. if 250k of existing coverage, only eligible for \$250k under our AU program).
- Only age 50 and below are available from 2M to 5M.

For the most prevalent program:

- The minimum age ranged from zero to 21, with an average of 16. The most common minimum age was 18 (almost 85% of the respondents).
- The maximum age ranged from 49 to 85, with an average of 59. The most common maximum age was 60 (over 45% of the respondents).
- The minimum face amount ranged from \$1,000 to \$150,000, with an average of \$79,000. The most common minimum face amount was \$100,000 (slightly more than half of the respondents).
- The maximum face amount ranged from \$50,000 to \$7,500,000, with an average of \$2,100,000. The most common maximum face amount was \$1,000,000 (one-third of the respondents).

Compared to the 2019 Survey, the most common levels remained the same. However, the averages changed:

- Minimum age decreased from 20 to 16.
- Maximum age increased from 55 to 59.
- Minimum face amount increased from \$53K to \$79K.
- Maximum face amount increased from \$800K to \$2.1M.

The following Figure 4-10 shows the distribution of the combination of the maximum age and face amounts among the responding companies.

**Figure 4-10**  
**MAXIMUM ISSUE AGE AND FACE AMOUNT LIMITS IN 2022**

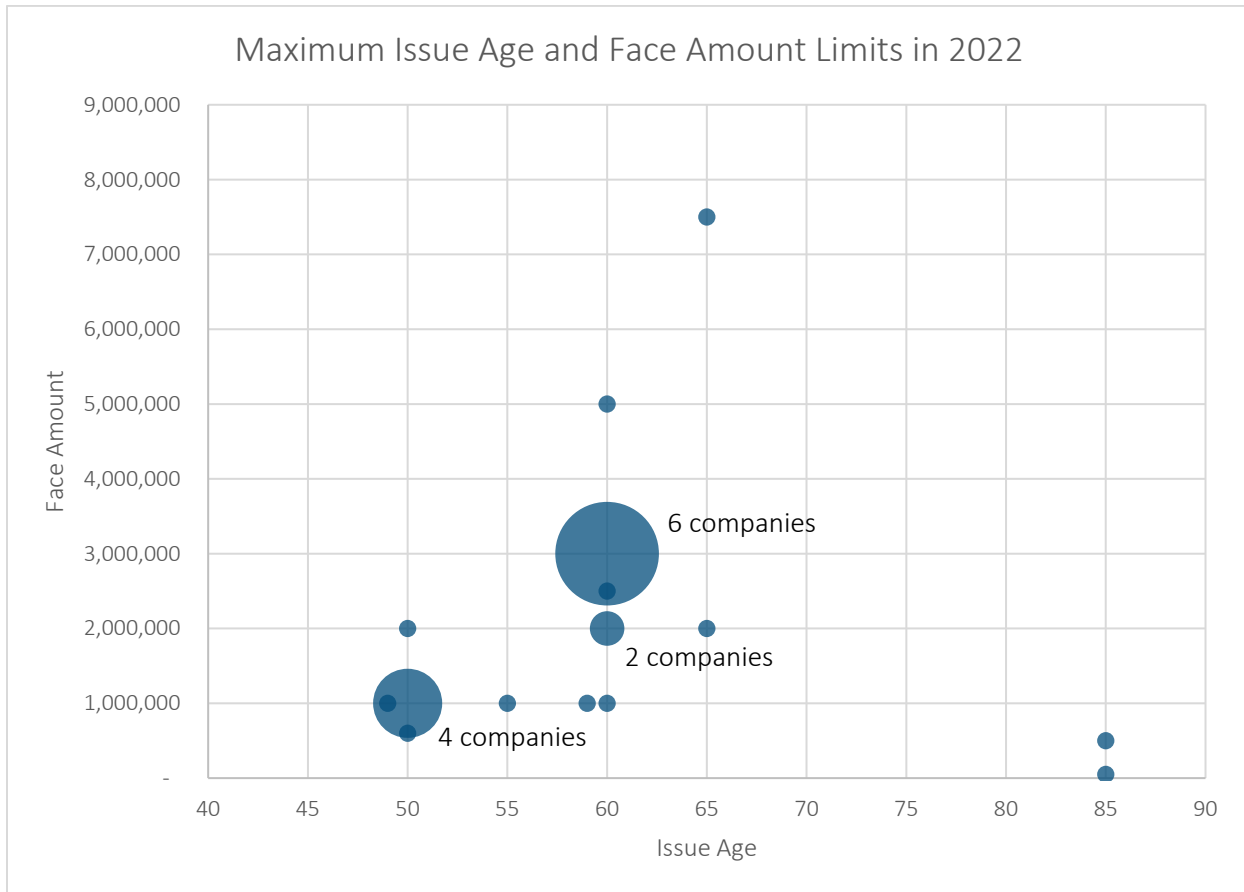


Figure 4-10 shows that for 2022 most companies set their maximum issue ages between 50 and 60 and their maximum face amounts between \$1,000,000 and \$3,000,000.

What was the sales volume (by policy count and face amount) of all AU programs in 2019, 2020, 2021, and what is your expectation in 2022?

Face amounts are expressed in millions. The reason for the drop in sales in 2022 is discussed below.

Table 4-11

SALES VOLUME OF ALL AU PROGRAMS IN 2019, 2020, AND 2021

Measure	Sales	
	Policy Count	Face Amount (in \$millions)
<b>2019</b>		
Low	397	\$52
Average	<b>29,624</b>	<b>\$6,030</b>
High	380,000	\$30,000
Total Respondents	21	20
<b>2020</b>		
Low	924	\$316
Average	<b>35,388</b>	<b>\$12,381</b>
High	380,000	\$111,000
Total Respondents	22	21
<b>2021</b>		
Low	30	\$6
Average	<b>37,483</b>	<b>\$12,230</b>
High	400,000	\$93,000
Total Respondents	24	23
<b>2022 Expected</b>		
Low	350	\$175
Average	<b>36,152</b>	<b>\$8,480</b>
High	420,000	\$45,928
Total Respondents	21	20

Respondent Comments:

- 2021 was influenced by WA Cares Act
- 2022 expected AU sales are rough estimates.
- Assume "sales volume" means cases that were actually placed, and not just application volume.
- Based on applications issued.
- In 2022 we have seen a significant proportion of our AU-eligible business migrate to our simplified issue term product. We expect this to continue in 2023.
- Interpreted as policies that received an offer through AUW.
- Numbers reflect placed (actual sales) rather than submitted.
- Sales numbers are for all business that received AU offers.
- These are final decisions; placed amounts are about 90% of these totals.

Before analyzing the results, it should be pointed out that the "Low" company sales values for policy count and face amount values in 2021 were significantly lower than in the other years. The reason for this is this company just began their AU program in 2021.

The rest of this discussion will focus on the averages because a different number of companies responded in each of the four years studied.

By policy count, AU programs grew from an average of 30K policies in 2019 to 35K in 2020 and 37K in 2021. There was an expected decrease to 36K in 2022.

By face amount, among the reporting companies, AU programs grew from an average of \$6 billion in 2019 to \$12 billion in 2020 and 2021. For 2022, there was an expected decrease to \$8 billion. The reason for this drop is because a few companies that provided higher levels of sales in other years, did not respond for 2022. Seventeen companies provided sales by face amount in all years. Among these companies, the average grew from \$5 billion in 2019, to \$8 billion in 2020, and to \$9 billion in 2021 and 2022.

**What year did you introduce your first AU program, even if not currently used?**

**Figure 4-12**

**YEAR FIRST AU PROGRAM INTRODUCED**

Year Program Began	Number of Companies	
	First AU Program Introduced	Most Prevalent AU Program Introduced
2013	1	1
2014	1	1
2015	1	0
2016	5	3
2017	8	8
2018	6	3
2019	0	0
2020	1	4
2021	1	2
2022	0	2
<b>Total Respondents</b>	24	24

Respondent Comments:

- Our rules-based exam waiver program started in 2014.
- [Product name] launch 4/2021, limited national launch October 2021.
- We have made minor adjustments since launch.

The first AU program among the respondents began in 2013 and the latest one began in 2021. Almost 80% of the AU programs were introduced in 2016-2018.

Over 70% of the first introduced AU programs were also the current most prevalent programs, but possibly with variations.

#### 4.4 HYBRID AU

We asked about companies' hybrid AU programs. Our definition is provided below.

By "hybrid AU", we are referring to the same definition as an AU program, except some other test(s) or information (e.g., APS, EHR, etc.), may be required in the underwriting process while still allowing the applicant to forgo insurance fluid requirements and a paramedical exam.

Does your company have a Hybrid AU? Check all that apply.

Table 4-13

#### HYBRID AU PROGRAMS

Do you have a Hybrid AU program?	Number of Companies
Yes, for most prevalent AU program	13
Yes, for other AU programs	1
No, but have plans to develop one	4
No, and do not have plans to develop one	7
<b>Total Respondents</b>	<b>24</b>

Respondent Comments:

- Only a small portion of acceleration eligible cases get an APS.
- The only program that we have matches the description of hybrid.
- We have a process where you can go through what we call 'traditional underwriting' without getting fluids drawn. We do not consider this a hybrid program though.

Almost 55% of the respondents indicated they had a hybrid program for their most prevalent AU program and one company also indicated they had a hybrid program for other AU programs.

Eleven companies indicated they did not have a hybrid program on their most prevalent AU program, but four of these companies indicated they had plans to develop a hybrid program.

## What year did you develop your first Hybrid AU?

Table 4-14

### YEAR FIRST HYBRID AU PROGRAM INTRODUCED

Year Program Began	Number of Companies
2014	1
2015	0
2016	0
2017	3
2018	2
2019	0
2020	2
2021	2
2022	3
<b>Total Respondents</b>	<b>13</b>

#### Respondent Comments:

- We originally required APS at max AU size (\$1M or \$2M), but we no longer do, except for cases age 50+ and over \$1M.
- Went into production July 2022. [Also reported as 2022 for figure above]
- When we expanded age/amount eligibility, some of these age/amounts require APSs.

All but one of the companies developed their hybrid AU programs between 2017 and 2022, with over half of them being developed in 2020-2022. The other company was the earliest developer, in 2014.

Companies were asked to describe the differences between the hybrid AU and most prevalent AU programs. The following is a summary of the responses. Note that only summaries are provided to protect potential proprietary information.

- Age/amount required APS ordered even if case passes AU.
- APS for certain medical conditions and underwriter review.
- Designed for impairments that require an APS, but do not require age/amount requirements for risk assessment. Same random holdout percentage, but don't get post-issue APS because one was already required. Turnaround time longer with APS.
- EHR and APS for certain medical conditions, if adequate information then waived.
- If fail first pass, EHR or APS can be used.
- If referred to underwriter, underwriter can use EHR/APS or recent labs to waive.
- Included in program. Expanded program to include EHR at certain ages and face amounts.
- Included in program. "Refer to underwriter" review, but not call for fluids.
- Integrated APS/EHR for cases that underwriters "kick out" of AU where additional information is needed. Feel medical record is best source over fluids in cases like for mood disorders.
- Limits and random holdout rates on hybrid same. Underwriter's discretion on requirements to order; may include LabPiQture, EHR/APS.
- Non-med term and IUL, but underwriter needs to accept.

In general, based on the comments received in this question, a hybrid AU program can be described as the use of EHR or APS plus underwriter judgement to determine if the applicant can be issued a policy on a fluidless basis.

Please describe the differences between your Hybrid AU and AU programs (other than the most prevalent AU program). This could include but is not limited to what additional test(s) are required, how you treat positive and negative findings, the timing of your actions, whether any limits are different from your traditional AU program, and whether your random holdout and post-issue audit percentages are different from your traditional AU program.

Most of the companies that responded to this question indicated that the hybrid AU programs were the same or that they only had one AU program. However, three summarized comments are shown below. The last comment is from a company that did not provide an answer to the most prevalent AU program question above.

- Hybrid AU is intended as a transition to full underwriting.
- The addition of fluidless options is an evolution of AU, introducing more data to reduce the costly and lengthy experience of labs and exams.
- Require APS for higher ages and face amounts. Occasionally get APS on ad hoc basis for other AU age/amount eligible cases.

#### 4.5 AU ELIGIBILITY

This section will cover the risk classes available for AU eligible applicants, the percentage of AU eligible applicants among all applicants, and the percentage of AU eligible applicants who qualify to have the fluid tests and/or paramedical exams waived.

For the survey, “AU eligible applications” are defined as applications that are taken on a product covered by an AU program where the applicant meets the age and amount requirements to potentially have certain underwriting requirements waived.

For your most prevalent AU program, indicate the risk classes allowed for your AU eligible applicants. Check all that apply.

Table 4-15

#### MOST PREVALENT AU PROGRAM RISK CLASSES

Risk classes where most prevalent program offered	Number of Companies
<b>Nonsmoker Best Preferred</b>	23
<b>Nonsmoker Other Preferred</b>	23
<b>Nonsmoker Residual Standard</b>	21
<b>Nonsmoker Substandard</b>	5
<b>Smoker Preferred</b>	17
<b>Smoker Standard</b>	17
<b>Smoker Substandard</b>	4
<b>Total Respondents</b>	24

Respondent Comments:

- Applicants in our AU program may end up with substandard final risk based on information collected on other requirements.
- {The best risk class} only available for term.
- NS residual standard would only be via hybrid acceleration.
- Only our best class - for both smokers & non-smokers - is eligible to be auto-approved via the AU program.

All companies responded to this question. All but one company allow the nonsmoker best preferred. Only five companies allow the nonsmoker substandard risk class and four allow the smoker substandard in the most prevalent AU program.

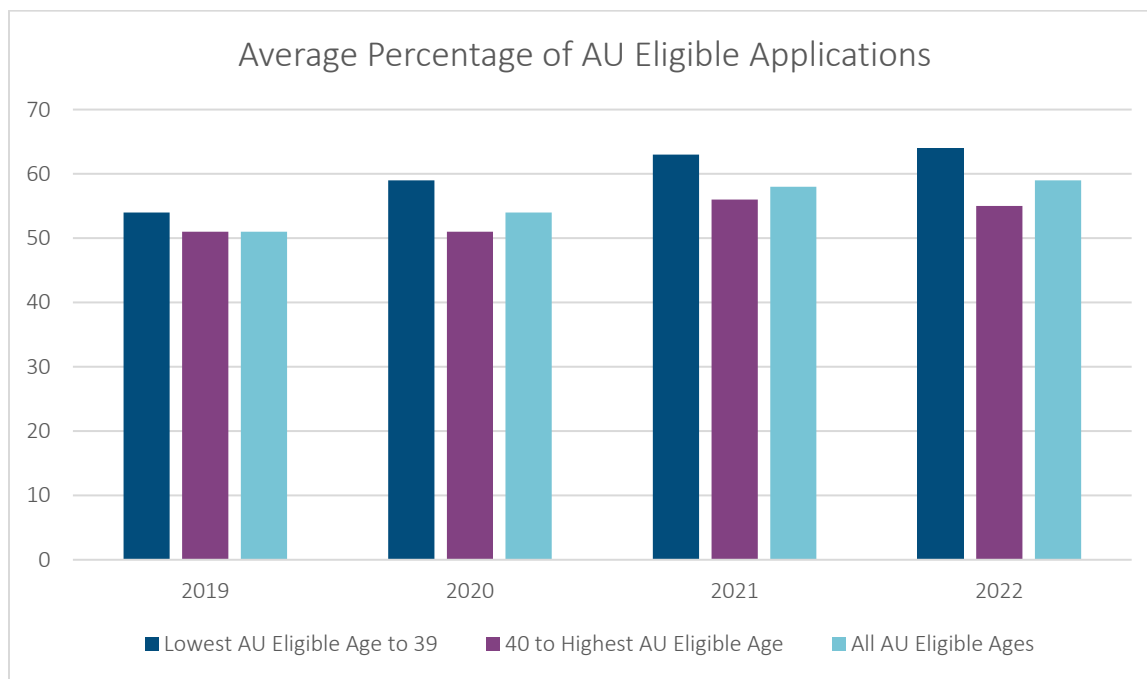


Of all of your life insurance applications (excluding simplified issue and guaranteed issue underwriting programs), what percentage were AU Eligible Applications? Complete this table by indicating the AU eligible rate/percentage for each of the years and issue age groups given. If your answer is 50% or 0.5, please enter "50".

Figure 4-16 and Table 4-17 show the percentage of all applications (excluding simplified issue and guaranteed issue underwriting programs), that were AU eligible applications. Results are split by age (lowest AU eligible age to 39 and 40 to highest AU eligible age) and year (2019, 2020, and 2021 actual, and 2022 expected).

The following Figure 4-16 shows the average percentage of AU eligible applications among all companies, split by age group and overall.

**Figure 4-16**  
**AVERAGE PERCENTAGE OF AU ELIGIBLE APPLICATIONS SPLIT BY AGE GROUP**



While this wasn't consistent, more companies had a higher percentage of applicants eligible for the younger age group (lowest AU eligible age to 39) than the older age group (40 to highest AU eligible age).

Looking at the averages over all ages, there was an increase in eligibility from 51% in 2019 to 54% in 2020, 58% in 2021, and 59% in 2022.

The following Table 4-17 provides more details.

**Table 4-17**  
**PERCENTAGE OF ELIGIBLE APPLICATIONS FOR ALL AU PROGRAMS IN 2019, 2020, 2021 (ACTUAL) AND 2022 (EXPECTED)**

Percentage of Eligible Applications for All AU Programs			
Measure	Issue Age		
	Lowest AU Eligible Age to 39	40 to Highest AU Eligible Age	All AU Eligible Ages
<b>2019 Actual</b>			
<b>Low</b>	9%	9%	9%
<b>Average</b>	<b>54%</b>	<b>51%</b>	<b>51%</b>
<b>High</b>	87%	90%	89%
<b>Total Respondents</b>	17	16	18
<b>2020 Actual</b>			
<b>Low</b>	13%	11%	13%
<b>Average</b>	<b>59%</b>	<b>51%</b>	<b>54%</b>
<b>High</b>	93%	91%	92%
<b>Total Respondents</b>	19	19	21
<b>2021 Actual</b>			
<b>Low</b>	10%	10%	10%
<b>Average</b>	<b>63%</b>	<b>56%</b>	<b>58%</b>
<b>High</b>	100%	100%	100%
<b>Total Respondents</b>	21	21	21
<b>2022 Expected</b>			
<b>Low</b>	20%	13%	20%
<b>Average</b>	<b>64%</b>	<b>55%</b>	<b>59%</b>
<b>High</b>	100%	100%	100%
<b>Total Respondents</b>	20	20	22

Respondent Comments:

- 2019 data is unavailable.
- Also excluded juvenile applications. We're seeing younger customers migrate from AU-eligible products to simplified issue.
- AU eligibility is determined by applied-for face amount.
- Eligibility expanded to age 65 (from 50) in 2022 Q2, Juveniles became eligible in 2021 Q4.
- Expectation for 2022 based on data through 9/30/2022; ages 40+ not eligible for AU in 2019; reflects all eligibility criteria.
- Monitoring began in 2020. We have not calculated splits based on above/below 40.
- Not providing forward looking statement (2022 expected).
- We increased max limit from \$1M to \$2M in 10/2020.

In all but one case, the average eligibility increased each year across both age groups and overall. The company(ies) with the highest percentage also increased each year, reaching 100% in years 2021 and 2022. While the results fluctuated year by year, the company(ies) with the lowest eligibility percentages also increased between 2019 and 2022.

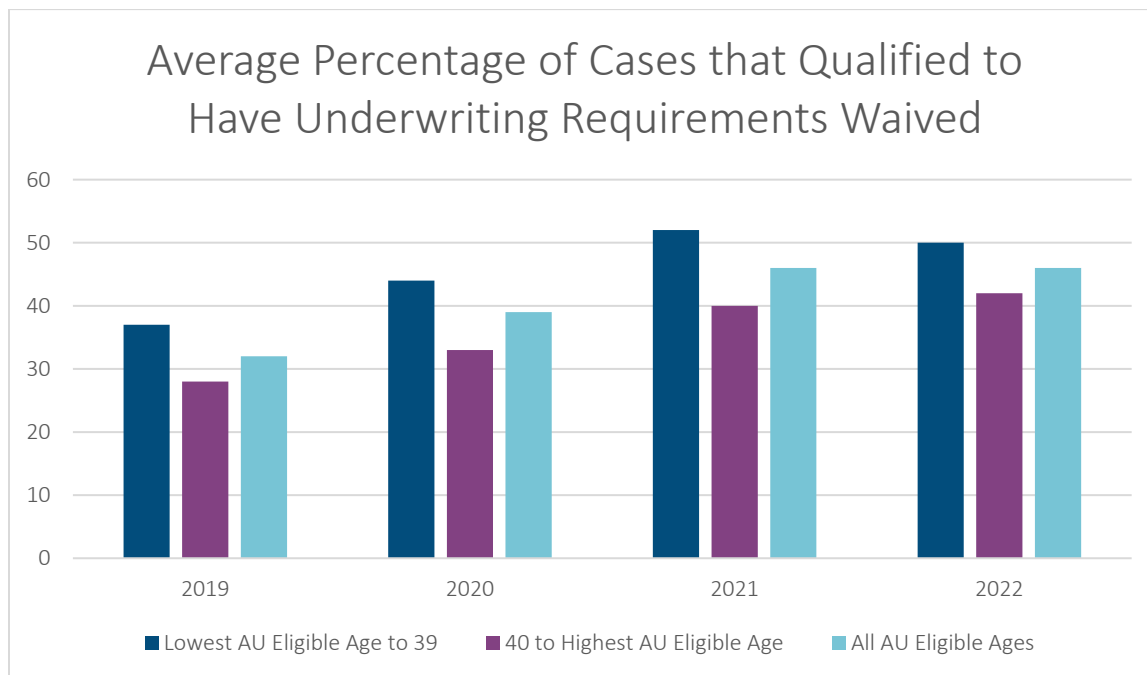
The average eligibility rate increased from 51% in 2019 to 59% in 2022. The average eligibility rate for the younger age group (lowest AU eligible age to 39) was higher than the older age group (40 to highest AU eligible age) in all four years.

While these results cannot be compared directly to the results from the 2019 Survey, the eligibility rates in this survey appear to be higher than those reported in the 2019 Survey, where an approximate weighted average of the results implies an overall average of about 36% vs. the 51-59% shown above. A higher AU eligibility rate over time makes sense as companies become more comfortable with their AU programs.

Of all of your AU Eligible Applications, what percentage of cases qualified to have the fluid tests and/or paramedical exams waived? Include both policies that were issued and policies that were not issued. Complete this table by indicating the waived rate/percentage for each of the years and issue age groups given. If your answer is 50% or 0.5, please enter "50".

Figure 4-18 and Table 4-19 show of all of the AU Eligible Applications, the percentage of cases that qualified to have the fluid tests and/or paramedical exams waived. This Includes both policies that were issued and policies that were not issued. Results are split by age (lowest AU eligible age to 39 and 40 to highest AU eligible age) and year (2019, 2020, and 2021 actual, and 2022 expected).

**Figure 4-18**  
**AVERAGE PERCENTAGE OF CASES THAT QUALIFIED TO HAVE UNDERWRITING REQUIREMENTS WAIVED AMONG ALL AU ELIGIBLE APPLICATIONS**



All but one company had a higher or the same percentage of cases that qualified to have requirements waived for the younger age group (lowest AU eligible age to 39) than the older age group (40 to highest AU eligible age). Averages for the younger age group are higher than for the older age group.

Looking at the averages, with one exception, there was an increase in percentage of cases that qualified to have the requirements waived each year and for all three age groups (younger, older, and overall). Overall, the percentages increased from 32% in 2019 to 39% in 2020 and to 46% in 2021 and 2022.

The following Table 4-19 provides more detail.

**Table 4-19**

**PERCENTAGE OF CASES THAT QUALIFIED TO HAVE UNDERWRITING REQUIREMENTS WAIVED AMONG ALL AU ELIGIBLE APPLICATIONS FOR ALL AU PROGRAMS IN 2019, 2020, 2021 (ACTUAL), AND 2022 (EXPECTED)**

Percentage of Cases that Qualified to Have Underwriting Requirements Waived Among All AU Applications			
Measure	Issue Age		
	Lowest AU Eligible Age to 39	40 to Highest AU Eligible Age	All AU Eligible Ages
<b>2019 Actual</b>			
<b>Low</b>	16%	5%	10%
<b>Average</b>	<b>37%</b>	<b>28%</b>	<b>32%</b>
<b>High</b>	70%	70%	68%
<b>Total Respondents</b>	17	16	17
<b>2020 Actual</b>			
<b>Low</b>	19%	6%	12%
<b>Average</b>	<b>44%</b>	<b>33%</b>	<b>39%</b>
<b>High</b>	85%	80%	83%
<b>Total Respondents</b>	19	19	19
<b>2021 Actual</b>			
<b>Low</b>	19%	6%	15%
<b>Average</b>	<b>52%</b>	<b>40%</b>	<b>46%</b>
<b>High</b>	100%	100%	100%
<b>Total Respondents</b>	22	21	21
<b>2022 Expected</b>			
<b>Low</b>	17%	5%	13%
<b>Average</b>	<b>50%</b>	<b>41%</b>	<b>46%</b>
<b>High</b>	100%	100%	100%
<b>Total Respondents</b>	21	20	20

Respondent Comments:

- 2019 data is unavailable.
- Also excluded juvenile applications.
- Big drop off over winter 2021-2022, still not fully recovered. Partly due to foreign travel restriction in first part of 2022.
- Eligibility expanded from age 50 to 65 in 2022 so the percentage decreases at ages 40+ (vs 2021).
- Expectation for 2022 based on data through 9/30/2022; ages 40+ not eligible for AU in 2019.
- Not providing forward looking statement (2022 expected).
- We are considering "qualified to have the fluid tests and/or paramedical exams waived" as our definition of accelerated. Other Refer to Underwriting have them waived, too, but wouldn't say they "qualified" for it.
- We look at a fluidless rate for all underwriting types, but we do not drill down and look at the 'fluidless' rate of just AU eligible apps.
- We tailor AU to non-med limits.

The highest company(ies) across all three age groups increased from 70% in 2019 to 80-85% in 2020 to 100% in 2021-2022. The percentages for the lowest company(ies) were relatively consistent over the years, with only the "All AU Eligible Ages" group increasing from 10% in 2019 to 13% in 2022.

The average increase across all ages increased from 32% in 2019 to 46% in 2022. In the 2019 Survey the average percentage of AU eligible policies waived was estimated at 43.5%, higher than the 32% average for 2019 shown above.

#### 4.6 WITHDRAWALS AND NOT TAKENS

Survey participants were informed that withdrawn means when the applicant withdraws their application either pre- or post- underwriting decision.

Of all AU Eligible Applications and all fully underwritten applications, what percentage of cases were withdrawn? Complete this table by indicating the withdrawn rate/percentage for each of the years and issue age groups given for both all AU programs and full underwriting programs. If your answer is 10% or 0.1, please enter "10".

This is shown first for all AU programs and then for all full underwriting programs. Results are split by age (lowest AU eligible age to 39 and 40 to highest AU eligible age) and year (2019, 2020, and 2021 actual, and 2022 expected).

Table 4-20

PERCENTAGE OF CASES WITHDRAWN AMONG ALL AU ELIGIBLE APPLICATIONS FOR ALL AU PROGRAMS IN 2019, 2020, 2021 (ACTUAL), AND 2022 (EXPECTED)

Percentage of Cases Withdrawn Among All AU Eligible Applications for All AU Programs			
Measure	Issue Age		
	Lowest AU Eligible Age to 39	40 to Highest AU Eligible Age	All AU Eligible Ages
<b>2019 Actual</b>			
Low	0%	0%	0%
Average	12%	14%	13%
High	27%	28%	27%
Total Respondents	14	14	14
<b>2020 Actual</b>			
Low	0%	0%	0%
Average	11%	13%	12%
High	29%	31%	30%
Total Respondents	17	17	17
<b>2021 Actual</b>			
Low	0%	0%	0%
Average	12%	14%	13%
High	27%	29%	28%
Total Respondents	19	19	19
<b>2022 Expected</b>			
Low	0%	0%	0%
Average	12%	14%	13%
High	28%	30%	28%
Total Respondents	18	18	18

For AU eligible applications, withdrawal rates ranged from 0% to 30%. The average withdrawal rate was very consistent, ranging from 11% to 14% across all years and age groups. These rates are higher than those shown in the 2019 Survey. The 2019 Survey used the same definition for withdrawals but was split between when the requirements were not waived (6.9%) and when they were waived (3.8%). The reason for this difference is not clear because, as you will see shortly, the not taken rates between the two surveys is relatively close.

All companies had a lower withdrawal rate for the younger age group (lowest AU eligible age to 39) than the older age group (40 to highest AU eligible age).

**Table 4-21**

**PERCENTAGE OF CASES WITHDRAWN AMONG ALL FULLY UNDERWRITTEN APPLICATIONS IN 2019, 2020, 2021 (ACTUAL), AND 2022 (EXPECTED)**

Percentage of Cases Withdrawn Among All Fully Underwritten Applications			
Measure	Issue Age		
	Lowest AU Eligible Age to 39	40 to Highest AU Eligible Age	All AU Eligible Ages
<b>2019 Actual</b>			
<b>Low</b>	2%	4%	3%
<b>Average</b>	<b>13%</b>	<b>17%</b>	<b>15%</b>
<b>High</b>	24%	26%	24%
<b>Total Respondents</b>	14	14	14
<b>2020 Actual</b>			
<b>Low</b>	2%	3%	3%
<b>Average</b>	<b>14%</b>	<b>16%</b>	<b>15%</b>
<b>High</b>	27%	28%	26%
<b>Total Respondents</b>	17	17	17
<b>2021 Actual</b>			
<b>Low</b>	2%	3%	3%
<b>Average</b>	<b>14%</b>	<b>18%</b>	<b>16%</b>
<b>High</b>	26%	33%	31%
<b>Total Respondents</b>	19	19	20
<b>2022 Expected</b>			
<b>Low</b>	1%	2%	2%
<b>Average</b>	<b>14%</b>	<b>16%</b>	<b>15%</b>
<b>High</b>	28%	28%	28%
<b>Total Respondents</b>	18	18	19

Respondent Comments:

- 2019 data is unavailable.
- All AU programs include a mandated fluid-less low face amount band that experiences highest cancelled levels.
- Incomplete and Pending policies are not counted. They are much more common in fully underwritten business.
- Interpreted "all fully underwritten applications" to mean not AUW eligible (AUW eligible cases could still be sent to full underwriting).
- Nearly all (~98.5%) of our customers with AU eligible issue ages are eligible for our AU program (exception is face amount >\$1mil which is a small proportion of our business). Our AU eligible programs and FUW programs represent very different products. Virtually all of our Term and UL applications are AU eligible, whereas FUW program are comprised of Whole Life (generally small face amounts) and Term and UL over \$1,000,000 (a small proportion of our business).
- Not providing forward looking statement (2022 expected).
- No data to answer accurately.
- Percentage includes both incompletes and withdrawals.
- These are percentages where no final decision was made prior to withdrawal.
- Unable to differentiate between "Withdrawn" cases (Tables 4-20 and 4-21) and "Not Takens" (Tables 4-22 and 4-23). Providing the same response for both questions based on "Not Taken" indicator in the data.



For all fully underwritten applications, withdrawal rates ranged from 2% to 33%, just slightly higher than on AU eligible applications. The average withdrawal rate was fairly consistent across all years, ranging from 13% to 18%. The average withdrawal rates were also slightly higher than the range on AU eligible applications.

While there were a few exceptions, the withdrawal rate was typically lower for the younger age group (lowest AU eligible age to 39).

Comparing the average withdrawal rate between fully underwritten applications and AU eligible applications for AU programs, the withdrawal rate was typically 1-4% higher among the fully underwritten applications. However, some individual companies experienced lower withdrawals among the fully underwritten applications.

The definition of not taken follows:

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.

Of all AU Eligible Applications and all fully underwritten applications, what percentage of cases were not taken? Complete this table by indicating the not taken rate/percentage for each of the years and age groups given for both all AU programs and full underwriting programs. If your answer is 10% or 0.1, please enter "10".

Results are split by age (lowest AU eligible age to 39 and 40 to highest AU eligible age) and year (2019, 2020, and 2021 actual, and 2022 expected).

Table 4-22

PERCENTAGE OF CASES NOT TAKEN AMONG ALL AU ELIGIBLE APPLICATIONS FOR ALL AU PROGRAMS IN 2019, 2020, 2021 (ACTUAL), AND 2022 (EXPECTED)

Percentage of Cases Not Taken Among All AU Eligible Applications for All AU Programs			
Measure	Issue Age		
	Lowest AU Eligible Age to 39	40 to Highest AU Eligible Age	All AU Eligible Ages
<b>2019 Actual</b>			
Low	0%	0%	0%
Average	5%	6%	6%
High	15%	18%	17%
<b>Total Respondents</b>	14	13	14
<b>2020 Actual</b>			
Low	0%	0%	0%
Average	5%	6%	5%
High	22%	20%	21%
<b>Total Respondents</b>	15	15	15
<b>2021 Actual</b>			
Low	0%	0%	0%
Average	5%	6%	6%
High	15%	17%	16%
<b>Total Respondents</b>	16	16	16
<b>2022 Expected</b>			
Low	0%	0%	0%
Average	5%	6%	6%
High	19%	23%	21%
<b>Total Respondents</b>	15	15	15

For AU eligible applications, not taken rates ranged from 0% to 23%. The average not taken rate was very consistent, ranging from 5% to 6% across all years and age groups. These results were consistent with (or slightly lower than) the 2019 Survey. The 2019 Survey used the same definition for not taken but was split between when the requirements were not waived (8.6%) and when they were waived (5.8%).

The average not taken rate for the younger age group (lowest AU eligible age to 39) was 5% and the average not taken rate for both the older age group (40 to highest AU eligible age) and all AU eligible ages was 6% in all years, with one exception; in 2020, the all AU eligible ages group had a not taken rate of 5%.

Table 4-23

**PERCENTAGE OF CASES NOT TAKEN AMONG ALL FULLY UNDERWRITTEN APPLICATIONS IN 2019, 2020, 2021 (ACTUAL), AND 2022 (EXPECTED)**

Percentage of Cases Not Taken Among All Fully Underwritten Applications			
Measure	Issue Age		
	Lowest AU Eligible Age to 39	40 to Highest AU Eligible Age	All AU Eligible Ages
<b>2019 Actual</b>			
Low	2%	2%	2%
Average	6%	7%	6%
High	18%	27%	24%
<b>Total Respondents</b>	14	13	14
<b>2020 Actual</b>			
Low	1%	1%	1%
Average	5%	6%	6%
High	22%	25%	23%
<b>Total Respondents</b>	15	15	15
<b>2021 Actual</b>			
Low	1%	1%	1%
Average	5%	7%	6%
High	22%	28%	26%
<b>Total Respondents</b>	16	16	16
<b>2022 Expected</b>			
Low	1%	1%	1%
Average	6%	7%	7%
High	35%	45%	40%
<b>Total Respondents</b>	15	15	16

Respondent Comments:

- 2019 data is unavailable.
- All AU programs include a mandated fluid-less low face amount band that experiences highest not taken levels.
- Expectation for 2022 based on data through 9/30/2022; ages 40+ not eligible for AU in 2019.
- Interpreted "all fully underwritten applications" to mean not AUW eligible (AUW eligible cases could still be sent to full underwriting).
- No data to answer accurately.
- Not providing forward looking statement (2022 expected).
- These are situations where we reached a final underwriting decision; not sure I trust the 2022 data, though we know we have generally less favorable decisions in 2022.
- We are unable to separate not taken from withdrawn. Included both in 5c.

For fully underwritten applications, not taken rates ranged from 1% to 40%, a much higher upper bound than for AU eligible applications. The average not taken rate was very consistent, ranging from 5% to 7% across all years and age groups. Similar to the not taken rate for the AU eligible application, the average not taken rate for the younger age group (lowest AU eligible age to 39) was lower than the average not taken rate for both the older age group (40 to highest AU eligible age) and all AU eligible ages.

Similar to withdrawals, comparing the average not taken rate between fully underwritten applications and AU eligible applications for AU programs, the not taken rate was typically up to 1% higher among the fully underwritten applications. However, some individual companies experienced lower not taken rates among the fully underwritten applications.

Of all AU Eligible Applications, what was the percentage of cases that fell into each of the categories in the table below? Complete this table by indicating the rates/percentages for 2021. If your answer is 10% or 0.1, please enter "10". The percentages should total 100%.

The next four figures summarize the type of underwriting completed, i.e., outcomes and the decision that was made from the underwriting process.

Underwriting outcomes include:

- (1) Neither fluids nor an underwriter was needed
- (2) Fluids were not required, but an underwriter was needed
- (3) Both fluids and an underwriter were needed

It should be noted that some companies do not allow Outcome (1).

Underwriting decisions include:

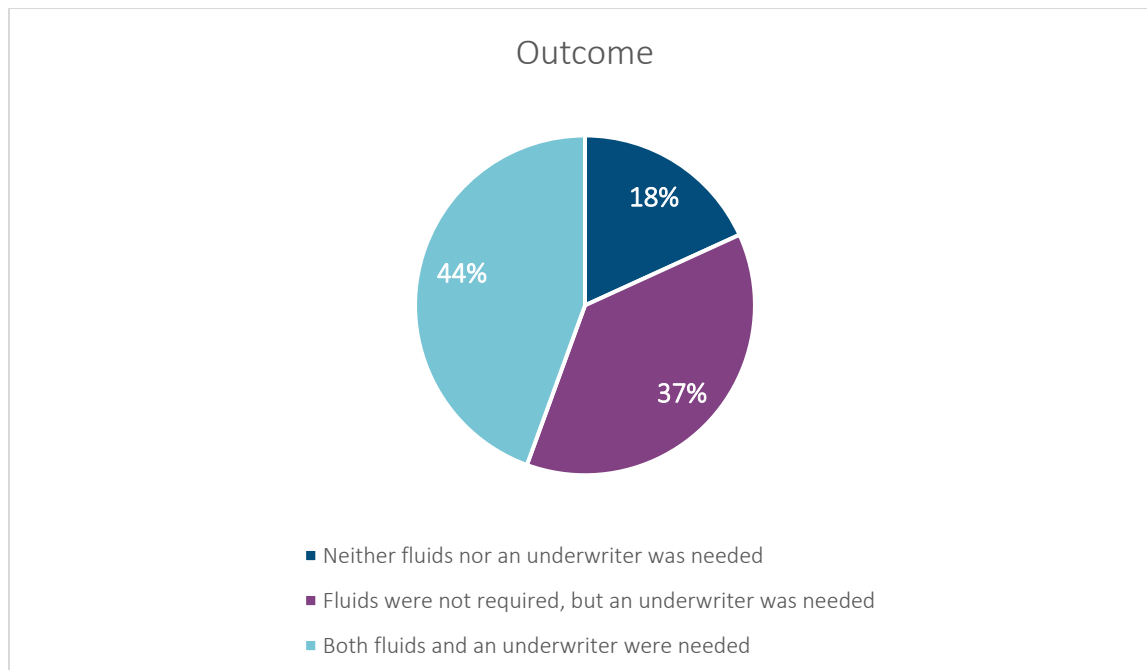
- (1) Issued
- (2) Not taken/Withdrawn
- (3) Declined/Postponed

Figures 4-24 and 4-25 show the distributions of the underwriting outcomes and decisions, respectively. Table 4-26 shows more detail on the breakdown of each outcome by the three decisions while Table 4-27 shows the breakdown of each decision by the three outcomes. The results in Figures 4-26 and 4-27 are identical, but providing the two views should help the reader better visualize the results based on their focus, i.e., outcome or decision.

Results are shown for 2021 only.

**Figure 4-24**

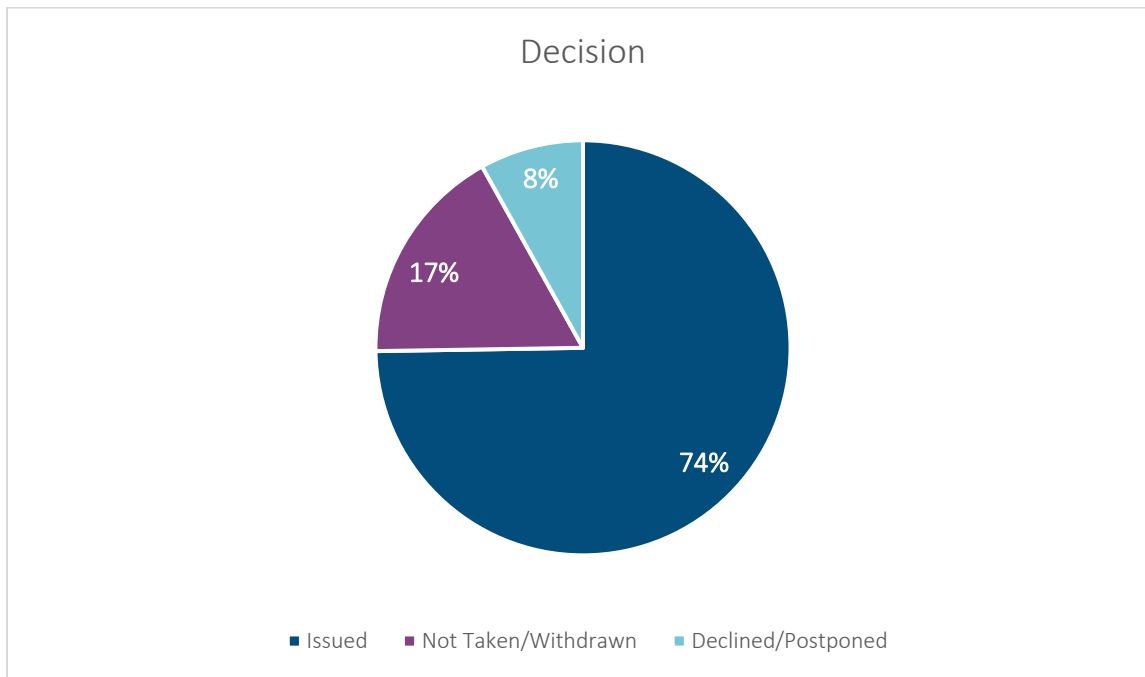
**PERCENTAGE OF THE AVERAGES FOR EACH OUTCOME FOR 2021**



Both fluids and an underwriter were needed on average almost 45% of the time and fluids were required, but an underwriter was not needed on average over 35% of the time.

**Figure 4-25**

**PERCENTAGE OF THE AVERAGES FOR EACH DECISION FOR 2021**



A policy was issued on average almost 75% of the time and the policy was not taken or withdrawn on average over 15% of the time.

The purpose of the next two tables is to better understand the split between underwriting decisions, i.e., issued, not taken/withdrawn, and declined/postponed (the decisions) among different types of underwriting outcomes, i.e., neither fluids nor an underwriter was needed, fluids were not required but an underwriter was needed, and both fluids and an underwriter were needed. Table 4-26 shows each underwriting outcome split by decision and Table 4-27 shows each decision split by underwriting outcome. Results are identical, but it was felt that some readers would find one approach easier to follow than the other.

Table 4-26

**PERCENTAGE OF CASES THAT FELL INTO EACH CATEGORY BY OUTCOME FOR 2021**

Percentage of Cases for 2021 – Split by Underwriting Outcome for each Decision			
Measure	Decision		
	Issued	Not Taken / Withdrawn	Declined / Postponed
<b>Underwriting Outcome – Neither fluids nor an underwriter was needed</b>			
Low	0%	0%	0%
Average	14%	2%	2%
High	64%	23%	19%
Total Respondents	18	18	19
<b>Underwriting Outcome – Fluids were not required, but an underwriter was needed</b>			
Low	0%	0%	0%
Average	28%	7%	2%
High	64%	21%	10%
Total Respondents	17	17	18
<b>Underwriting Outcome – Both fluids and an underwriter were needed</b>			
Low	0%	0%	0%
Average	32%	8%	4%
High	63%	29%	12%
Total Respondents	17	17	17

Looking at the results for both fluids and an underwriter were needed (the largest outcome), the average was largest for the issued decision (32%), followed by not taken/issued (8%), and declined/postponed (4%). For the other outcomes, the order of the decisions was the same.

The purpose of the next table is to show the same results as the previous table but in a different order. Table 4-27 shows each decision (issued, not taken/withdrawn, and declined/postponed) split by underwriting outcome (neither fluids nor an underwriter was needed, fluids were not required but an underwriter was needed, and both fluids and an underwriter were needed).

**Table 4-27**

**PERCENTAGE OF CASES THAT FELL INTO EACH CATEGORY BY DECISION FOR 2021**

Percentage of Cases for 2021 – Split by Decision for each Underwriting Outcome			
Measure	Underwriting Outcome		
	Neither fluids nor an underwriter was needed	Fluids were not required, but an underwriter was needed	Both fluids and an underwriter were needed
	Decision – Issued		
Low	0%	0%	0%
Average	14%	28%	32%
High	64%	64%	63%
Total Respondents	18	17	17
	Decision – Not Taken/Withdrawn		
Low	0%	0%	0%
Average	2%	7%	8%
High	23%	21%	29%
Total Respondents	18	17	17
	Decision – Declined/Postponed		
Low	0%	0%	0%
Average	2%	2%	4%
High	19%	10%	12%
Total Respondents	19	18	17

Respondent Comments:

- 2% of cases were issued as "Fluids Required, Underwriter not needed" (option not provided above), Less than 0.1% of these cases were not-taken/withdrawn. Declined/postponed cases included with not taken/withdrawn in data.
- All cases are reviewed by an underwriter (light-touch for AUW).
- Currently no automation support on accelerated underwriting; all cases reviewed by an underwriter.
- Do not have automated underwriting rules engine so all applications are seen by an underwriter.
- Fluids would only be needed if coverage amount exceeded the max for our AU program.
- Ignored other statuses such as Rejected and Unsatisfied Requirements to get to 100%.
- Incomplete and Pending policies are not counted.
- NA.
- No data to answer accurately.
- No instant decision process in place, only accelerated underwriting. The 'not taken/withdrawn' bucket includes incomplete applications.
- Sorry totals add to 101% if that's a problem remove 1% from somewhere.
- This is the other piece that held us up - tried to tie all the pieces of 5 together, but different systems/queries challenged us to get everything completely consistent.
- Unable to obtain this level of detail for issued, not taken.

Looking at the results for issued business (the largest decision), the average was largest for both fluids and an underwriter were needed (32%), followed by fluids were not required, but an underwriter was needed (28%), and



neither fluids nor an underwriter were needed (14%). For the other decisions, the order of the outcomes was the same.

#### 4.7 CHANGES TO AU PROGRAMS

In column 1, indicate if you have changed your most prevalent AU program from 2020 to present. Please indicate the type of change in the remaining columns. Check all that apply.

Table 4-28

#### CHANGES IN MOST PREVALENT AU PROGRAM 2020 TO PRESENT

Item	Number of Companies							
	Change in most prevalent AU program from 2020 to present	Type of Change						
		In response to COVID-19	Temporary	A modification	A new addition	A deletion	More restrictive	Less restrictive
Face amount limits	17	8	1	10	3	0	0	12
Algorithm	9	1	0	6	3	0	1	4
Data sources	9	1	0	1	7	1	2	1
Issue age limits	7	3	0	4	0	0	0	6
Random holdouts	7	3	0	3	1	1	3	5
Application - Way information collected (i.e., electronic, paper, etc.)	6	0	0	0	5	0	0	2
Credit data/credit-attribute models	6	0	0	2	1	2	2	2
Consumer data (non-credit)	5	0	0	0	2	3	0	1
Application information used	4	0	0	4	0	0	0	0
Post-issue audits	4	0	0	1	1	1	1	2
Prescription histories	4	1	0	2	1	0	2	0
Instant decision	3	0	0	1	1	0	0	2
Risk classes that can qualify for waiver of requirements	3	0	0	2	1	0	0	2
Vendor score(s)	3	0	0	1	1	1	0	2
Claims/rescission practices	2	0	0	2	0	0	1	0
Distribution channel	2	0	0	0	2	0	0	0
Identification check	1	0	0	0	1	0	0	0
MIB	1	1	0	1	0	0	0	0
MVR	1	0	0	1	0	0	0	0
Propensity to smoke model	1	0	0	1	0	0	1	0
Product	0	0	0	0	0	0	0	0
<b>Total Respondents *</b>	<b>22</b>	<b>22</b>	<b>22</b>	<b>22</b>	<b>22</b>	<b>22</b>	<b>22</b>	<b>22</b>

\* Two companies of 24 indicated they did not make any changes to their most prevalent AU program between 2020 and 2022. The remaining 22 companies indicated that they made at least one change to their most prevalent AU program in that period.

Respondent Comments:

- Change planned for 2023.
- No changes.
- Post issue audit process was simplified to just order APS; consumer data was removed from AU algorithms.
- Stopped using credit-based data in 2022. increased face limit from \$1M to \$2M in 10/2020. stopped requiring APS for policies of exactly \$1M ages 50-60 in 10/2020, and for policies of exactly \$2M ages 18-49 in 8/2022.

Of the companies that made changes, the most prevalent changes were to face amount limits (17 companies), the algorithm and data sources (nine each), issue age limits and random holdouts (seven each), and application collection process and credit data/credit-attribute models (six each). The only item in the long list that no companies made changes to was product.

The following provides more details on the changes for each of the items with the most prevalent changes:

- Face amount limits – Mostly a modification and all less restrictive (for those responding). Also, one company indicated that this was a temporary change. Note that this was the only mention of a temporary change among all items.
- Algorithm – Mostly a modification and less restrictive.
- Data sources – Mostly a new addition and split between more and less restrictive.
- Issue age limits – Of the companies providing this detail, they were all a modification and less restrictive. However, one company indicated that they tightened the issue age from 60 to 54 temporarily during COVID-19.
- Random holdouts – Mostly a modification and less restrictive, although there were also some that were more restrictive.
- Application collection process – Of the companies providing this detail, they were all a new addition and less restrictive.
- Credit data/credit-attribute models – Of the companies providing this detail, this was split between a modification, new addition, and deletion, and split between more and less restrictive.

The next most prevalent changes to the most prevalent AU program in 2020-2022 were non-credit consumer data (five) and application information used, post-issue audits, and prescription histories (four each). Additional information on these changes includes:

- Consumer data was split between new additions and deletions.
- Application information was all a modification.
- Post-issue audits and prescription histories were split between new additions and deletions.
- Post-issue audits were split between more and less restrictive while prescription histories were more restrictive.

The items that were changed most because of a response to COVID-19 were face amount limits (eight) and issue age limits and random holdouts (three each).

In column 1, indicate if you are planning to change your most prevalent AU program (including designing a new program) in 2022 or 2023. Please indicate the type of change in the remaining columns. Check all that apply.

Table 4-29

## PLANNED CHANGES FOR MOST PREVALENT AU PROGRAM

Item	Number of Companies						
	Plans to change most prevalent AU program in 2022 or 2023	Change will be					
		In response to COVID-19	A modification	A new addition	A deletion	More restrictive	Less restrictive
Algorithm	10	0	6	5	0	1	3
Data sources	7	0	2	6	0	0	0
Face amount limits	6	0	2	2	0	0	3
Application - Way information collected (i.e., electronic, paper, etc.)	5	0	4	1	0	0	0
Instant decision	5	0	1	3	0	0	2
Application information used	4	0	3	2	0	0	0
Issue age limits	4	0	2	2	0	0	1
Consumer data (non-credit)	2	0	1	0	1	0	0
Credit data/credit-attribute models	2	0	1	1	0	0	0
MVR	2	0	0	1	1	0	0
Vendor score(s)	2	0	1	2	0	0	0
Identification check	1	0	1	0	0	1	0
Other - Medical billing data	1	0	1	0	0	1	0
Other - Medical claims	1	0	0	1	0	0	0
Other - Online behavior	1	0	0	1	0	0	0
Prescription histories	1	0	1	0	0	0	0
Propensity to smoke model	1	0	0	1	0	0	0
Risk classes that can qualify for waiver of requirements	1	0	1	0	0	0	0
Claims/rescission practices	0	0	0	0	0	0	0
Distribution channel	0	0	0	0	0	0	0
MIB	0	0	0	0	0	0	0
Post-issue audits	0	0	0	0	0	0	0
Product	0	0	0	0	0	0	0
Random holdouts	0	0	0	0	0	0	0
Total Respondents	20	20	20	20	20	20	20

Respondent Comments:

- Consumer data removed at the beginning of 2022.
- Continuously looked to make the underwriting experience better for financial professionals and their clients. Based on feedback and data analytics. Will review a few new data sources.
- No changes planned to existing program.
- No plans/projects for adjustments at this time.
- Plan to launch machine-learning algorithm for acceleration decision in 2023, though underwriter will still review each case as a control (to make sure acceleration seems ok).
- We will research updates to our program in 2023 but the changes are TBD and are unlikely to be implemented before 2024.

Twenty-three companies responded to this question. Three of the companies indicated that they did not plan to make any changes to their most prevalent AU program in 2022 or 2023. One company did not respond to this question.

Note that this list of possible future changes (Table 4-29) was identical to the list for recent changes (Table 4-28).

There is an overlap (2022) between what was changed and what is being planned to be changed. The reason for this is the survey was completed in 2022. An example of this overlap is the first comment above about removing consumer data at the beginning of 2022.

Of the companies that plan to make changes, the most prevalent changes to be made are to the algorithm (10 companies), data sources (seven), face amount limits (six), application collection process and instant decision (five each), and application information used and issue age limits (four each). The top three here were also the top three in the previous question on changes made, but in a different order. Application information used and issue age limits were also more prevalent in the previous question.

The following provides more details on the planned changes for each of the items with the most prevalent planned changes:

- Algorithm – Both modifications and new additions are planned, with more of the changes being less restrictive.
- Data sources – Both modifications and new additions are planned, with more being new additions.
- Face amount limits – Both modifications and new additions are planned, with them being less restrictive.
- Application collection process – More modifications than new additions are planned.
- Instant decision – More new additions than modifications are planned, with them being less restrictive.
- Application information used – Both modifications and new additions are planned.
- Issue age limits – Both modifications and new additions are planned.

No companies were planning to make changes because of COVID-19.

There were a number of items that one or no companies indicated they planned to change in 2022 or 2023. The items that no companies planned to change included claims/rescission practices, distribution channel, MIB, post-issue audits, product, and random holdouts.

**4.8 ALGORITHMS**

This section covers multiple items related to the algorithm used for AU. These items include how many algorithms are used, who was involved with the development of the algorithm, the tools used with the algorithm, and keeping track of the results from the algorithm.

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 fluid tests and/or paramedical exam waived and if they are waived, what risk class they qualify for.

For your most prevalent AU program, what do you use? Select only one.

- One algorithm for determining both whether the applicant qualifies to have their fluid tests and/or paramedical exam 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 fluid tests and/or paramedical exam waived and one to determine risk class)
- More than two algorithms, please explain \_\_\_\_\_
- Do not know

Table 4-30  
**MOST PREVALENT AU PROGRAM ALGORITHM**

Algorithm(s) to determine whether applicant qualifies to have tests/exams waived and risk class applicant qualifies for	Number of Companies
One algorithm to determine both	12
Two separate algorithms	9
More than two algorithms	1
Do not use algorithms for either	1
<b>Total Respondents</b>	<b>23</b>

Twelve respondents (about half) indicated they used one algorithm to determine both whether the applicant qualifies to have the fluid tests and/or the paramedical exam waived and what risk class they qualify for. In the 2019 Survey, half also indicated they used one algorithm to determine both. Nine companies indicated they have two separate algorithms, one to determine whether the requirements could be waived and another to determine the risk class. One respondent indicated they used more than two algorithms and one indicated they do not use algorithms for either waiving requirements or determining the risk class.

The comments provided some additional insight into how the algorithms are used:

- 100% of our business is fluidless.
- Algorithm is a workflow process - not a risk-scoring mechanism per se.
- In this regard, algorithm is referring to the [...] score being used by the underwriter.
- It is one process but a mix of a few models.
- Risk class is not determined by the algorithm, only the waiving of fluid tests. There is a set of rules that determine whether or not to get a model score for the application.
- We don't have an algorithm for final decision. One algorithm for knock-out from acceleration, then underwriter reviews to see if ok to waive fluids. Either way, underwriter makes risk class decision.
- We use a combination of rules engine decisioning and predictive model scoring for determining lab-free qualification. However, the predictive model is not used in the risk class determination.

The splits in the 2019 Survey were similar, with 14, 13, and 1 respondent indicating they used 1, 2, and 3 algorithms, respectively.

Who developed your algorithm(s) for your most prevalent AU program? Check all that apply.

Table 4-31

WHO DEVELOPED MOST PREVALENT AU PROGRAM ALGORITHM

Developed Most Prevalent Program	Number of Companies
Internal Underwriter	14
Internal Data Scientist	13
Internal Actuary	11
Reinsurer(s)	8
Vendor(s)	8
Consultant(s)	4
Other – Internal IT	1
Other – Internal Medical Director	1
<b>Total Respondents</b>	<b>24</b>

Respondent Comments:

- A consultant developed our algorithm for determining whether an exam is required, but not the rule set for determining risk class.
- Initial algorithm was built by consultants. It has been rebuilt/recalibrated by internal data scientists annually and is now very different from what consultant gave us initially.
- Model development primarily done by Data Scientists, with input and review from actuary.
- True Risk Life Score.
- We use LN RC for part of the AUW risk assessment; we do not currently have a holistic algorithm in use for the AUW risk assessment (an UW reviews every case)

The top five that developed the algorithm for the most prevalent AU program were the internal underwriter (14 companies), internal data scientist (13), internal actuary (11), and the reinsurer(s) and vendor(s) (both at eight). In the 2019 Survey, the top five were same, but other than the first, they were in a different order. The ranking from the 2019 Survey was internal underwriter (24 of 28 companies), internal actuary (23), reinsurer (16), internal data scientist (12), and vendor (seven).

The most developers used by a company was five (one company). Most common was the use of three developers (eight companies). Of the five companies indicating use of only one developer, that developer was a vendor by four of the five.

In the 2019 Survey, the top five developers of the algorithms were internal underwriter (24 companies), internal actuary (23), reinsurer (16), internal data scientist (12), and vendor (seven). The internal underwriter remained the most prevalent developer and the internal data scientist, while only increasing by a count of one, increased in prevalence rank to second. Overall, less developers were used in the current survey than the 2019 Survey.



Complete this table by indicating all of the tools used in your most prevalent AU program algorithm(s) for determining both (i) if the fluid tests and/or paramedical exam can be waived and (ii) the risk class that would be used. Note FCRA stands for the Fair Credit Reporting Act.

Table 4-32

## TOOLS USED TO DEVELOP MOST PREVALENT AU PROGRAM ALGORITHM

Tool	Number of Companies Using Tool for	
	Waiving Fluid Tests and/or Paramedical Exam	Risk Class Determination
Application (Electronic)	22	22
Prescription histories	21	21
MIB data	21	16
MVR data	19	22
Application (Tele-underwriting interview)	17	17
Credit data/credit-attribute models	11	7
Application (Paper)	9	9
Criminal data	7	9
Medical claims data	7	8
Identification (authentication/verification)	7	5
Financial data	5	6
Electronic health record data	3	6
Smoker propensity data	2	0
Wearable data	0	0
Other FCRA-approved data – APS	1	0
Other FCRA-approved data – Rx Scoring Tool	1	0
Other Non-FCRA-approved data	0	0
Other - Clinical Lab data (Lab PiQture)	1	1
Other - Coverage limit data from another non-Life product line	1	0
Other - Optional on-line Part 2 in lieu of TI	1	1
<b>Total Respondents</b>	<b>24</b>	<b>24</b>

Respondent Comments:

- Because we use one model for both, all items that are part of the algorithm are checked for both purposes. The EHR data is not used in the algorithm, but may contribute to a risk class decision when using the hybrid AU path B.
- Selections above refer to data used in the risk assessment; we do not have an automated algorithmic approach to AUW at the moment.

The top five tools used in the algorithm for determining whether an applicant qualifies to have their fluid tests and/or paramedical exam waived were the electronic application (22 companies), MIB and prescription histories (21 each), MVR data (19) and application/tele-underwriting interview (17). The top five tools used in the algorithm for determining risk class were the same as for determining waiver, but in a different order. For determining risk class, the top five were the electronic application and MVR data (22 each), prescription histories (21), application/tele-underwriting interview (17), and MIB data (16).

The next two for determining waiver were credit data/credit-attribute models (11) and paper application (nine). Note that all three types of applications made the top seven. For determining the risk class, the next two were paper application and criminal data (both at nine).

In the 2019 Survey, the top five for both were the same as in this survey, but in a different order. The top five for determining whether an applicant qualifies to have their fluid tests and/or paramedical exam in the 2019 Survey were MIB and prescription histories (24 companies each), MVR (21), electronic application (21) and tele-underwriting interview (19). The top five for determining risk class were MVR (24), prescription histories (23), and electronic application, MIB, and tele-underwriting interview (all at 20).

For the cases that do not qualify to have fluid tests and/or paramedical exam waived in your most prevalent AU program, do you keep track of the reason why the applicant did not qualify?

Table 4-33

KEEPING TRACK OF THE REASONS CASES DO NOT QUALIFY TO HAVE THE FLUID TESTS AND/OR PARAMEDICAL EXAM WAIVED

Are the reasons kept track of?	Number of Companies
Yes	20
No	4
<b>Total Respondents</b>	<b>24</b>

Respondent Comments:

- Captured in UW case notes.
- This information is available but not specifically tracked.
- We keep track of the reasons that an app was ineligible to get an AU score, but not the reasons an app has a failing score.

Eighty-three percent of the respondents indicated that they keep track of the reasons why applicants did not qualify to have the fluid test and/or paramedical exam waived, and one additional company indicated that they do not specifically track the data, but that it is available.

In the 2019 Survey, 88% indicated they kept track of the reason why applicants did not qualify.

If so [keep track of the reason why the applicant did not qualify], do you provide this information to the applicant and/or agent?

**Table 4-34**

**PROVIDING THE REASONS CASES DO NOT QUALIFY TO HAVE THE FLUID TESTS AND/OR PARAMEDICAL EXAM WAIVED TO THE APPLICANT AND/OR AGENT**

Are the reasons provided?	Number of Companies
<b>Yes</b>	10
<b>No</b>	10
<b>Total Respondents</b>	20

Respondent Comments:

- Divide generic data points such as underwriting tool that impacted underwriting decision.
- Part of Standard Decision Letter Materials.
- We do not promote an "acceleration path" for waiving fluids/exam.
- We have tools for the underwriter to use if they subsequently need to discuss with agent.

All companies that tracked changes answered this question. Half of the respondents indicated they provide the reasons why the applicant did not qualify to have the fluid tests and/or paramedical exam waived to the applicant and/or agent, while the other half indicated they did not provide this information.

In the 2019 Survey, 24% of the respondents indicated that they provide the reasons to the applicant and/or agent. Therefore, there appears to be an increasing trend in providing this information.

## 4.9 UNFAIR DISCRIMINATION

The term “unfair discrimination” will be used to represent discrimination against a protected class that occurs from the use of an algorithm or data selection, whether known or unknown.

### How do you check for potential Unfair Discrimination? Check all that apply.

Twenty-three companies responded to this question. Fifteen did one or more types of testing as shown in Table 4-35 below, and eight did not do any testing.

Three of the eight that do not test indicated they set their algorithm and data to minimize unfair discrimination. Note also that 11 of the 15 that test also indicated they set their algorithm and data to minimize unfair discrimination.

Table 4-35 below shows the type of testing the 15 companies did for unfair discrimination.

**Table 4-35**

#### CHECKING FOR UNFAIR DISCRIMINATION

Method	Number of Companies
Testing - Internal	11
Testing - Reinsurer	2
Testing – Other Vendor	8
<b>Total Respondents</b>	<b>15</b>

As mentioned above 15 companies indicated that they tested for unfair discrimination. Almost three-quarters did internal testing and over half used a vendor other than a reinsurer to help with the testing. Some companies did more than one type of test.

Some additional insights on this issue and testing can be gained from the comments provided:

- The definition of "unfair discrimination" provided above seems overly broad. For example, the use of an algorithm that replicates human underwriting decisions based solely on medical data may "discriminate" in an actuarially-sound manner if the distribution of medical impairments is higher among a protected class.
- We currently use an algorithm of a vendor tool; we do manual assessment of the holistic AUW data.
- We do not collect protected class information on the application, and we do not use external consumer data and information sources for waiving fluids/paramedical exam nor for risk class determination.
- We only use FCRA-compliant data and follow traditional underwriting guidelines (while using professional judgment as to whether a case can waive fluids/exam).
- We used a third party to analyze algorithms for bias using BISG model.

#### 4.10 POST-ISSUE AUDIT

In this section, we provide information on various issues related to post-issue audits. Post-issue audits are when an insurance company collects additional information on the AU 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.

#### Do you conduct Post-Issue Audits?

Table 4-36  
POST-ISSUE AUDITS

Are post-issue audits conducted?	Number of Companies
Yes	15
No	9
<b>Total Respondents</b>	<b>24</b>

Respondent Comments:

- Audits were conducted in 2020 when we stopped our random holdout, but have been limited so far due to resource constraints and favorable results. We expect to conduct more audits in the future.
- Based on APS review.
- Post-issue APS ordered randomly.
- Selective APS review.

Sixty-three percent of the respondents indicated that their company conducted post-issue audits. While this percentage seemed low, 56% of the respondents to the 2019 Survey indicated that they conducted post-issue audits. The 2019 Survey provided more detail on the number cases targeted as well as actually audited; since these results were similar, targeted vs. actual audited cases were not asked about in this Survey.

Why do you conduct Post-Issue Audits? Please rank the top 3 reasons, with 1 being the most important.

Table 4-37

TOP THREE REASONS FOR CONDUCTING POST-ISSUE AUDITS

Reasons	Rank			Weighted Rank
	1	2	3	
	Number of Companies			
Determine cases with misrepresentation or fraud	8	3	3	33
Validate assumptions	3	1	3	14
Determine misclassified cases	1	4	2	13
Determine magnitude of misclassified cases	1	4	0	11
Determine weaknesses in AU program	2	0	4	10
More quickly catch errors and make changes	0	1	1	3
Other – Sentinel effect	0	1	0	2
Determine if applicant smokes	0	0	1	1
Other companies do it	0	0	0	0
<b>Total Respondents</b>	15	14	14	15

Respondent Comments: None

Fifteen companies responded to this question. One company only provided their top ranked reason and another company indicated sentinel effect was their second-ranked reason.

For this and all subsequent ranking questions, a weighting system was developed whereby the highest weight (i.e., three for the top three questions and five for the top five questions) was assigned to the top ranking, and the weight was reduced by one for each subsequent rank, with the weight for the lowest rank being one. For example, in Table 4-37, rank one was assigned a weight of three, rank two was assigned a weight of two, and rank three was assigned a weight of one. The three weighted totals are then summed to produce the Weighted Rank in the last column. For the most common response (i.e., determine cases with misrepresentation or fraud), the weighted rank of 33 was determined by  $8 \times 3 + 3 \times 2 + 3 \times 1 = 33$ .

The top three reasons for conducting post-issue audits were to determine cases with misrepresentation or fraud (weighted rank 33), to validate assumptions (14), and to determine misclassified cases (13). The next two were to determine the magnitude of misclassified cases (11) and to determine weaknesses in AU programs (10).

The top three reasons for conducting post-issue audits in the 2019 Survey were to determine the magnitude of cases that slipped through (21), to determine weaknesses in the underwriting process (21), and to determine the percent of cases that slipped through (16). "Slipped through" was defined as an applicant having an impairment that was not caught. Note that 14 companies responded to this question in that survey and that the choices were slightly different between the two surveys. The top choice in this Survey (determine cases with misrepresentation or fraud) was not a choice in the 2019 Survey.

What tools do you use to conduct your Post-Issue Audits? Check all that apply.

Table 4-38

**TOOLS USED TO CONDUCT POST-ISSUE AUDITS**

<b>Tool</b>	<b>Number of Companies</b>
<b>APS</b>	12
<b>Prescription histories</b>	4
<b>Recheck tool(s)</b>	3
<b>Other – Electronic Health Records</b>	2
<b>Identification (authentication/verification)</b>	2
<b>Other – Medical claims data</b>	2
<b>MVR</b>	2
<b>Other – Agent behavior</b>	1
<b>Credit data/credit-attribute models</b>	1
<b>Inspection report</b>	1
<b>Consulting company</b>	0
<b>Consumer data (non-credit)</b>	0
<b>Telephonic follow-up with insured</b>	0
<b>Total Respondents</b>	15

Respondent Comments:

- We previously used other inspection reports.

Fifteen companies responded to this question. Eighty percent (12) of the responding companies indicated using APS as a tool for conducting post-issue audits. The next most common tools were prescription histories (four companies) and a recheck tool (three). There were also three write-in tools, Electronic Health Records (two companies), medical claims data (two), and agent behavior (one). Other tools used by two companies were identification (authentication/verification) and MVR.

The top tools used in the 2019 Survey were APS (73% or 11 companies), MIB Plan F follow up (six), and prescription histories (five). Fifteen companies also responded to this survey.



#### 4.11 MISREPRESENTATION AND RESCISSION

This section discusses company practices regarding misrepresentation and rescissions.

If a Post-Issue Audit finds that the case should have been declined, what do you do? Select only one.

Table 4-39

#### ACTION TAKEN IF FIND FROM POST-ISSUE AUDIT CASE SHOULD HAVE BEEN DECLINED

Action	Number of Companies
Rescind in all circumstances	5
Rescind in some circumstances	10
Never rescind	0
<b>Total Respondents</b>	<b>15</b>

Respondent Comments:

- Subject to legal review.
- Assuming misrep we would do all.
- Case is reviewed by an Assistant Chief Underwriter or Chief Underwriter then determined if it needs to be rescinded.
- We pursue rescission in all circumstances where we've obtained sign off following review by legal dept (sometimes they will recommend not to rescind).
- Don't post-issue audit.

Fifteen companies responded to this question. Two-thirds indicated they rescind a policy in some circumstances and one-third indicated they rescind a policy in all circumstances if a post-issue audit finds that a case should have been declined. No respondents indicated that they never rescind a policy in these circumstances.

In the 2019 Survey, 13 of 14 respondents indicated they would rescind a policy in some circumstances, while only one company indicated they would rescind a policy in all circumstances.

Indicate the reasons you will rescind a policy which has been issued under your AU programs (check all that apply):

Table 4-40

**REASONS POLICY ISSUED UNDER AU PROGRAM WILL BE RESCINDED**

Reason	Number of Companies
Material misrepresentation	24
Material nondisclosure	20
<b>Total Respondents</b>	24

Respondent Comments:

- We only very rarely rescind a policy (maybe 1 every few years).

All companies responded to this question and all indicated they rescind a policy for material misrepresentation. All but four companies indicated they rescind a policy for material nondisclosure.

Note that material nondisclosure and material misrepresentation were the only items specifically mentioned in the question and no other reasons were provided as write-ins.

Twenty-four companies also responded to this question in the 2019 Survey. Two fewer companies indicated they rescind a policy for material misrepresentation and three less companies indicated they rescind a policy for material nondisclosure.

How does misrepresentation and fraud on all AU programs compare to that on your full underwriting programs in 2019, 2020 and 2021, and what is your expectation in 2022?

In 2019-2021, all AU programs had, and in 2022 all programs are expected to be:

Figure 4-41 and Table 4-42 show the comparison of misrepresentation and fraud between all AU programs and fully underwritten programs. Figure 4-41 shows the results graphically and Table 4-42 shows the numerical results.

**Figure 4-41**

**COMPARISON OF MISREPRESENTATION AND FRAUD BETWEEN AU AND FULLY UNDERWRITTEN PROGRAMS**

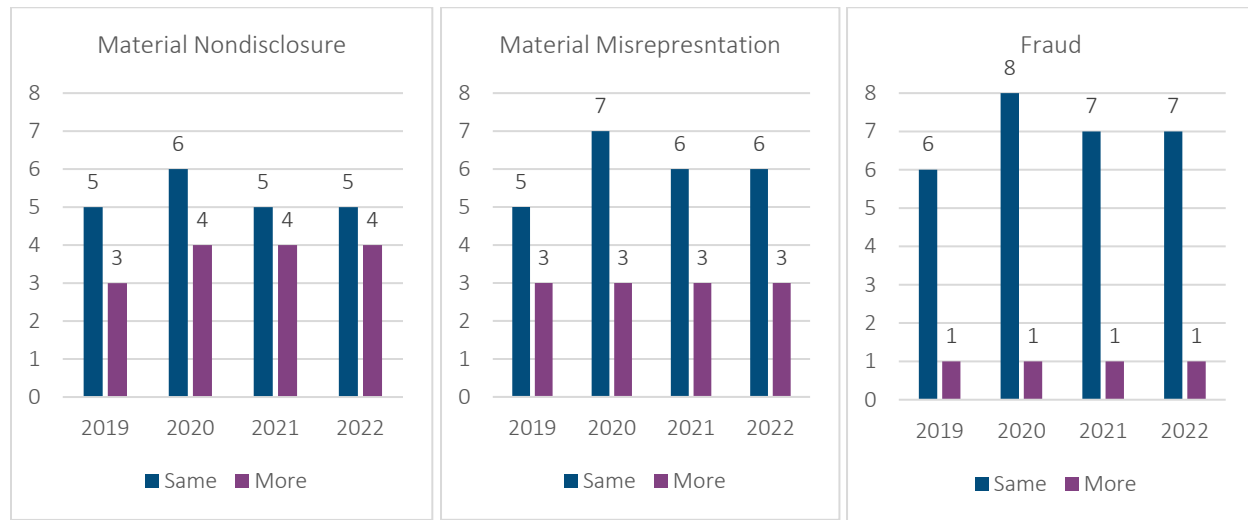


Table 4-42

## COMPARISON OF MISREPRESENTATION AND FRAUD BETWEEN AU AND FULLY UNDERWRITTEN PROGRAMS

Comparison between AU and Fully Underwritten Programs – Number of Companies			
	Type of Misrepresentation/Fraud		
AU Programs were:	Material Nondisclosure	Material Misrepresentation	Fraud
<b>2019 Actual</b>			
Less	0	0	0
Same	5	5	6
More	3	3	1
<b>Total Respondents</b>	<b>8</b>	<b>8</b>	<b>7</b>
<b>2020 Actual</b>			
Less	0	0	0
Same	6	7	8
More	4	3	1
<b>Total Respondents</b>	<b>10</b>	<b>10</b>	<b>9</b>
<b>2021 Actual</b>			
Less	0	0	0
Same	5	6	7
More	4	3	1
<b>Total Respondents</b>	<b>9</b>	<b>9</b>	<b>8</b>
<b>2022 Expected</b>			
Less	0	0	0
Same	5	6	7
More	4	3	1
<b>Total Respondents</b>	<b>9</b>	<b>9</b>	<b>8</b>

## Respondent Comments:

- 2021 and 2022 post-issue analysis is incomplete.
- NA.
- Our levels of misrep and rescission are so low for our AU programs, we're not establishing trends at this point.
- Insufficient data.
- Post-issue audit conducted in 2020 found a small amount of misrep and did not appear out of line with fully underwritten experience.
- This data is not available.
- We only very rarely rescind a policy (maybe 1 every few years).
- We really don't measure the misrepresentation between Fully Underwritten or AU; however, we do not have reason to believe AU has more misrepresentation except for a very small block of Direct to Consumer. Our constable claim rate has not changed materially due to introducing AU.

Only a limited number of companies (seven to 10), responded to these questions. For material nondisclosure and material misrepresentation, eight companies responded for 2019, 10 responded for 2020, and nine responded for 2021 and 2022. For fraud, the number of responding companies was one less than for each of the years.

No respondents indicated that any of the three types of misrepresentation/fraud for AU programs were less than those for fully underwritten products. While there was limited data, it appears that more companies indicated that for all three categories and years requested, AU and fully underwritten policies had the same results between AU and fully underwritten policies, while the remainder had a higher percentage of misrepresentation and fraud cases

for AU programs. Only one company indicated it had a higher percentage of misrepresentation and fraud cases for AU than for fully underwritten programs over all four years.

A similar question was asked in the 2019 Survey, but it was an opinion rather than experience question. In the 2019 Survey, most thought fraud would be at about the same levels for AU policies and fully underwritten policies, but material misrepresentation and material nondisclosure would be higher for AU policies.

#### 4.12 RANDOM HOLDOUTS AND POST-ISSUE AUDITS

This section explores the prevalence of random holdouts and post-issue audits and the findings from them. Random holdouts and post-issue audits are tools utilized by companies to make sure policies they planned to waive requirements on (random holdouts) or did waive requirements on (post-issue audits) will have experience as expected or alert the company if this is not the case.

Random holdouts are when an AU applicant who has qualified to have their requirements waived, is put through full underwriting. This is typically done randomly, e.g., every 10th case, every 25th case, etc.

Post-issue audits are when an insurance company collects additional information on the AU 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.

**For all AU programs, provide your target and actual Random Holdout and Post-Issue Audit percentages of AU Eligible Applications. Please respond based on experience from 1/1/2019 to 12/31/2021 and expected for full year 2022. If your answer is 10% or 0.1, please enter "10".**

Table 4-43 shows the percentage of all AU Eligible applications that a Random Holdout or Post-Issue Audit is done. Results are shown for 2019-2021 actual and 2022 expected. Both target and actual results are included.

Table 4-43

#### RANDOM HOLDOUT AND POST-ISSUE AUDIT, TARGET AND ACTUAL PERCENTAGES OF AU ELIGIBLE APPLICATIONS

Percentage of AU Eligible Applications				
Measure	Random Holdout		Post-Issue Audit	
	Target	Actual	Target	Actual
<b>2019 Actual</b>				
Low	0% (4)	0% (4)	0% (7)	0% (7)
Average	8%	8%	6%	5%
High	50%	50%	25%	25%
Total Respondents	19	18	16	17
<b>2020 Actual</b>				
Low	0% (5)	0% (4)	0% (7)	0% (7)
Average	8%	7%	6%	5%
High	55%	55%	25%	25%
Total Respondents	20	20	17	18
<b>2021 Actual</b>				
Low	0% (7)	0% (8)	0% (7)	0% (9)
Average	5%	4%	6%	4%
High	12%	10% (4)	25%	25%
Total Respondents	21	22	18	20
<b>2022 Expected</b>				
Low	0% (5)	0% (6)	0% (7)	0% (7)
Average	5%	4%	5%	6%
High	11%	11%	25%	25%
Total Respondents	20	21	18	19

## Random Holdouts

Initially focusing on the averages, both target and actual percentages of random holdouts were consistent in 2019 and 2020 (about 8%) and then dropped by about half in 2021 and 2022 (4-5%). This drop was primarily driven by a large percentage decrease by one company in 2021 and 2022.

Comparing target to actual, most companies' random holdout percentages were the same as targeted. The following is a summary:

- In 2019, 13 companies were the same, five had lower actual percentages than target, and none had a higher actual percentage than target.
- In 2020, 11 companies were the same, eight had lower actual percentages than target, and one had a higher actual percentage than target.
- In 2021, 16 companies were the same, five had lower actual percentages than target, and none had a higher actual percentage than target.
- In 2022, 15 companies were the same, four had lower actual percentages than target, and one had a higher actual percentage than target.

The highest target and actual random holdout percentages were 50% in 2019 and 55% in 2020.

## Post-Issue Audits

Focusing on the averages, the percentages were more consistent for post-issue audits, ranging from 4% to 6% in all years for both target and actual. The percentages company by company were also consistent with 13 to 15 having the same target and actual percentages. The highest target and actual percentage in all years was 25%.

The comments provide some additional insights into the complexity of analyzing these results:

- 2020 and 2021 Actual Post-Issue Audits were less than 1%. Not providing forward looking statement (2022 expected).
- For post issue audits, we target 30% of cases that were accelerated, so the target as a % of AU eligible apps will move with acceleration rates.
- Holdout is 5% of applicants approved via AU program, Do not perform post issue audits.
- In 2020 the hold-out percentage varied throughout the year. Overall it was 53% for females and 56% for males. In 2019, the target and actual was 25% for Females and 75% for males.
- Low 2021 audit percent impacted by WA Cares Act.
- Switched from 10% to 5% RHO in June 2019.
- Target is 10% of "throughput". Throughput is a subset of AU eligible policies (about 44%). Throughput only includes policies that complete all necessary steps including knockout questions and tele-interview. Insufficient data for audits.
- Targets above are estimates as a % of apps. Actual post issue audit APS targets = 25% of placed STP cases where face amount <=\$1M, 100% of placed STP cases where face amount >\$1M.
- Tracking began in 2020.
- Turned off random holdout in response to covid, turned back on in spring 2022. 5% is target, adjusted for # of months random holdout is turned on.
- We hold out every 10th case < \$1M and every 5th > \$1M.

While it might be expected that random holdouts would decrease over time, as companies became more comfortable with their AU programs, with new and improving data sources, and the desire to improve the purchase experience for more customers, this will take time and as one respondent pointed out above, they decreased the random holdout percentage because of COVID-19 and then increased it again in 2022. As random holdouts are decreased, we would also expect an increase in post-issue audits to continue to check for the correctness of the offers and to make sure material misrepresentation and fraud have not been missed.



For the actual cases identified above, please provide further details on the results of the Random Holdouts and Post-Issue Audits for all AU programs. We are looking for percentages of various categories of both positive and negative findings. Please provide the percentage for each of years 2019, 2020, and 2021, and expected for 2022. If your answer is 10% or 0.1, please enter "10". For each row, the percentages should add up to 100%.

Table 4-44

## RANDOM HOLDOUT POSITIVE AND NEGATIVE FINDINGS

Random Holdout – Percentage of Positive and Negative Findings						
Measure	Positive Findings		Negative Findings			
	Better Risk Class	As Expected	Worse by up to two Risk Classes or Table Ratings	Worse by more than two Risk Classes (excluding Smoker Misrepresentation) or more than two Table Ratings	Smoker Misrepresentation	Decline / Postpone
<b>2019 Actual</b>						
Low	0%	55%	2%	0%	0%	0%
Average	6%	79%	10%	2%	1%	2%
High	14%	94%	19%	6%	3%	12%
Total Respondents	13	13	13	13	13	13
<b>2020 Actual</b>						
Low	0%	47%	3%	0%	0%	0%
Average	7%	75%	12%	3%	1%	2%
High	28%	93%	36%	7%	3%	5%
Total Respondents	15	15	15	15	15	15
<b>2021 Actual</b>						
Low	0%	53%	4%	0%	0%	0%
Average	9%	73%	11%	3%	2%	2%
High	20%	86%	19%	10%	6%	8%
Total Respondents	15	15	15	15	15	15
<b>2022 Expected</b>						
Low	0%	34%	2%	0%	0%	0%
Average	8%	71%	13%	3%	3%	2%
High	28%	91%	24%	15%	13%	10%
Total Respondents	15	15	15	15	15	15

Table 4-45  
POST-ISSUE AUDIT POSITIVE AND NEGATIVE FINDINGS

Post-Issue Audit – Percentage of Positive and Negative Findings						
Measure	Positive Findings		Negative Findings			
	Better Risk Class	As Expected	Worse by up to two Risk Classes or Table Ratings	Worse by more than two Risk Classes (excluding Smoker Misrepresentation) or more than two Table Ratings	Smoker Misrepresentation	Decline / Postpone
<b>2019 Actual</b>						
Low	0%	0%	0%	0%	0%	0%
Average	0%	88%	6%	2%	3%	1%
High	0%	97%	17%	4%	12%	2%
Total Respondents	7	7	7	7	7	7
<b>2020 Actual</b>						
Low	0%	0%	0%	0%	0%	0%
Average	0%	88%	8%	2%	3%	0%
High	1%	97%	17%	3%	12%	1%
Total Respondents	8	8	8	8	8	8
<b>2021 Actual</b>						
Low	0%	54%	0%	0%	0%	0%
Average	3%	82%	9%	3%	2%	1%
High	17%	96%	16%	8%	10%	3%
Total Respondents	9	9	9	9	9	9
<b>2022 Expected</b>						
Low	0%	80%	0%	0%	0%	0%
Average	2%	86%	8%	2%	2%	1%
High	10%	96%	14%	5%	10%	2%
Total Respondents	6	6	6	6	6	6

Respondent Comments:

- 2021 holdout analysis is underway, Do not perform post-issue audits.
- 2021 results aggregate program to-date through 2021; 2022 expect similar results to 2021.
- 2022 summary thus far isn't available.
- Data from '22 is actual not expected. Had random holdout either turned off or only on for the partial year in '21 and '20 and data not available for '19.
- "Expected" for 2022 is just based on APS reviews completed through end of Q3 - small fluctuations is due to small sample size, no real change in trend expected.
- Interpreted as AU class relative to full class. Our current process doesn't show smoker misrepresentation.
- Not providing forward looking statement (2022 expected).
- Percentages are of accelerated cases (would be much closer if all cases considered). 2019 covers 4/2018 to 9/2019. 2020 is 1/2020 to 9/2020. 2021 is 10/2020 to 9/2021. 2022 is 10/2021 to 3/2022.
- Tracking began in 2020.
- Unable to get some of the data.
- We have not conducted a random holdout or post-issue audit on 2021-2022 applications. In the coming months we plan to do some post-issue audit on 2022 apps.

As shown in Table 4-43, companies conducted less random holdouts over time, declining from 8% in 2019 to 4% in 2021 and 2022. Post-issue audits, on the other hand, increased slightly from 5% in 2019 and 2020 to 6% in 2022.

The discussion below will focus on the averages from Tables 4-44 and 4-45.

A few respondents were only able to provide answers for one or two categories and these were ignored in the calculation of averages. The largest percentage was for as expected, which is consistent with expectations. For random holdouts, the average percentage for as expected declined each year from 79% in 2019 to 71% in 2022. For post-issue audits, the percentages varied between 88% in 2019 and 2020 to 82% in 2021.

The next largest category was worse by up to two risk classes or two table ratings. For random holdouts, the average percentage range over the four years was 10% to 13%, with a generally increasing pattern. For post-issue audits, the average percentage ranged from 6% to 9% over the four years, again with a generally increasing pattern.

The third largest finding that was asked about was a better risk class. For random holdouts, this ranged from 6% to 9% over the four years, again with a generally increasing pattern. For post-issue audits, no better risk class was found in 2019 and 2020, and 3% was found in 2021 and 2% in 2022.

The averages for the other three negative findings ranged from 1% to 3% random holdouts and 0% to 3% for post-issue audits in all four years.

One of the reasons for asking for collecting this information was to estimate mortality slippage. The factors in Table 4-46 below were applied to each category to estimate the mortality slippage. These factors were estimated based on experience and judgement. The intent of this 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 based on some broad averages as a rough estimate.

**Table 4-46**

**FACTORS FOR CALCULATION OF MORTALITY SLIPPAGE FOR RANDOM HOLDOUT AND POST-ISSUE AUDIT POSITIVE AND NEGATIVE FINDINGS**

	Positive Findings		Negative Findings			
	Better Risk Class	As Expected	Worse by up to two Risk Classes or Table Ratings	Worse by more than two Risk Classes (excluding Smoker Misrepresentation) or more than two Table Ratings	Smoker Misrepresentation	Decline / Postpone
<b>Factor</b>	75%	100%	125%	200%	200%	600%

The resulting calculations are shown in Table 4-47.

**Table 4-47**

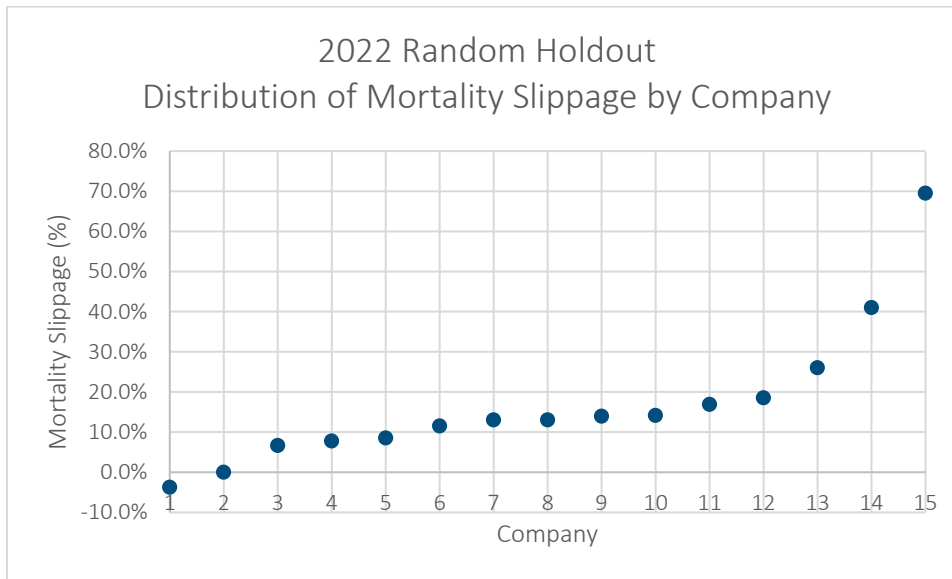
**CALCULATION OF MORTALITY SLIPPAGE FOR RANDOM HOLDOUT AND POST-ISSUE AUDIT POSITIVE AND NEGATIVE FINDINGS**

Estimated Mortality Slippage				
Year	Random Holdouts			Number of Companies
	Low	Average	High	
<b>2019</b>	1%	<b>14%</b>	61%	13
<b>2020</b>	2%	<b>14%</b>	31%	15
<b>2021</b>	0%	<b>17%</b>	52%	15
<b>2022</b>	-4%	<b>17%</b>	70%	15
<b>Average</b>		<b>15%</b>		
Post-Issue Audits				
<b>2019</b>	2%	<b>8%</b>	20%	7
<b>2020</b>	2%	<b>8%</b>	15%	8
<b>2021</b>	0%	<b>11%</b>	25%	9
<b>2022</b>	0%	<b>9%</b>	15%	6
<b>Average</b>		<b>9%</b>		

Table 4-47 shows an estimate of 15% mortality slippage for random holdouts and 9% mortality slippage for post-issue audits. Results for each were fairly consistent for each of the years data was provided.

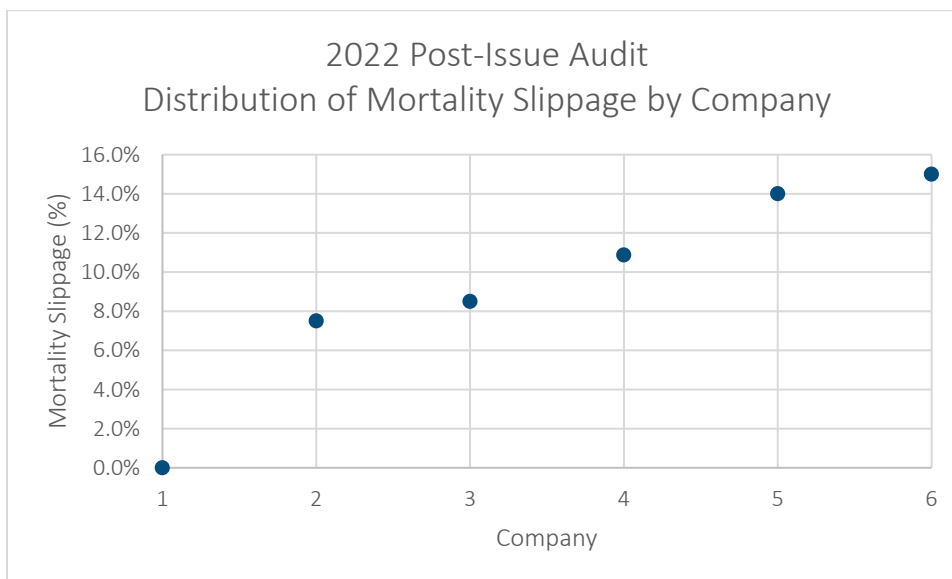
Figures 4-48 and 4-49 show the distribution of mortality slippage among the companies that provided data for random holdouts and post-issue audits in 2022, respectively.

**Figure 4-48**  
**RANDOM HOLDOUT 2022 DISTRIBUTION OF MORTALITY SLIPPAGE BY COMPANY**



For random holdouts, the mortality slippage ranged from -4% (i.e., mortality improvement) to 70% among the 15 companies providing positive and negative findings in 2022.

**Figure 4-49**  
**POST-ISSUE AUDIT 2022 DISTRIBUTION OF MORTALITY SLIPPAGE BY COMPANY**



For post-issue audits, the mortality slippage ranged from 0% (i.e., no mortality slippage) to 15% among the six companies providing positive and negative findings in 2022.

Differences between the results is likely due to the specific companies contributing to each or it could possibly imply that more slippage is caught from random holdouts than post-issue audits. This may be worth reviewing in future surveys when hopefully even more companies can contribute to this data.

A similar attempt to estimate mortality slippage was done in the 2019 Survey and the result from that was 8% mortality slippage for both random holdouts and post-issue audits.

**4.13 MORTALITY AND LAPSE**

This section compares mortality, contestable and non-contestable claims, and lapse experience between AU eligible policies where the fluid test and/or paramedical exam were waived and fully underwritten business.

Indicate the ratio of A to B for what you expect in 2022, where:

**A = Mortality of all the AU eligible policies from your most prevalent AU program that have the fluid test and/or paramedical exam waived.**

**B = Mortality of all fully underwritten business (including random holdouts).**

Figure 4-50 shows the results graphically and more detail is shown in Table 4-51.

**Figure 4-50**  
**RATIO OF: EXPECTED MORTALITY OF ALL AU ELIGIBLE POLICIES THAT HAVE THE FLUID TEST AND/OR PARAMEDICAL EXAM WAIVED FROM THE MOST PREVALENT AU PROGRAM TO EXPECTED MORTALITY OF ALL FULLY UNDERWRITTEN BUSINESS, EXPECTED IN 2022**

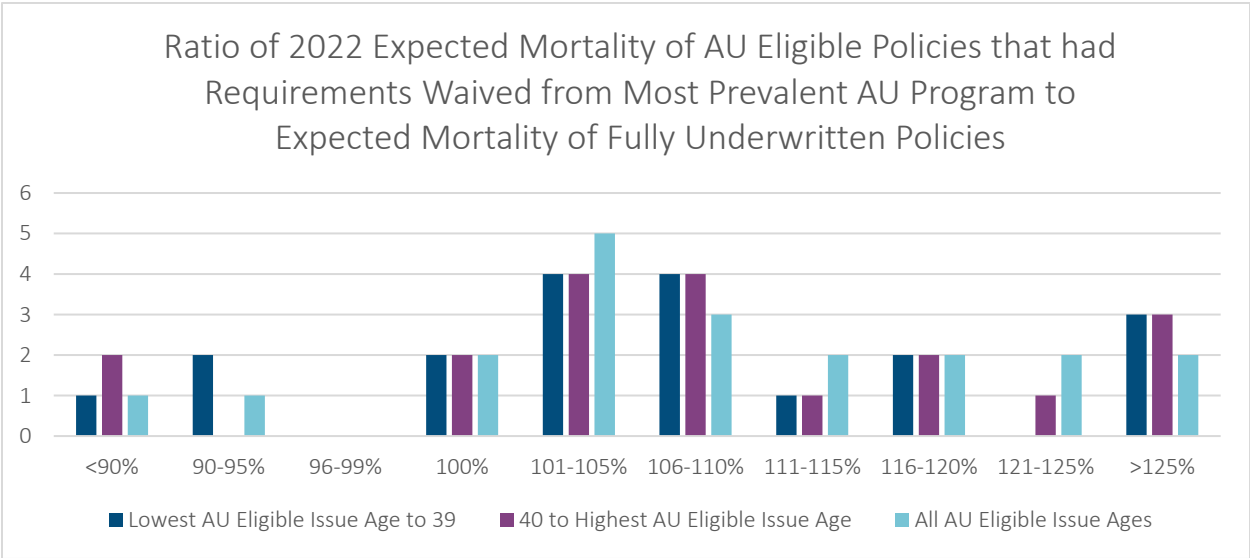


Table 4-51

RATIO OF: EXPECTED MORTALITY OF ALL AU ELIGIBLE POLICIES THAT HAVE THE FLUID TEST AND/OR PARAMEDICAL EXAM WAIVED FROM THE MOST PREVALENT AU PROGRAM TO EXPECTED MORTALITY OF ALL FULLY UNDERWRITTEN BUSINESS, EXPECTED IN 2022

Percentage	Number of Companies		
	Lowest AU Eligible Age to 39	40 to Highest AU Eligible Age	All AU Eligible Ages
>125%	3	3	2
121-125%	0	1	2
116-120%	2	2	2
111-115%	1	1	2
106-110%	4	4	3
101-105%	4	4	5
100%	2	2	2
96-99%	0	0	0
90-95%	2	0	1
<90%	1	2	1
<b>Total Respondents</b>	19	19	20
<b>Average *</b>	<b>108.1%</b>	<b>109.3%</b>	<b>109.2%</b>

\*Average assumes midpoint of ranges, and 85% for low range, 130% for high range

Nineteen companies provided ranges split by issue age and 20 companies provided results over all ages. The range of results for all AU eligible ages was less than 90% (one company) to over 125% (two companies). The range was similar when broken down by age, but generally with one more company at each of the extremes.

The averages were similar, 108.1% for the lowest AU eligible age to 39 to 109.3% for 40 to the highest AU eligible age. Over all AU eligible ages, the average was 109.2%. This means that one could expect mortality to be 8% to 9% higher on AU eligible policies under the most prevalent AU program that had the fluid test and/or paramedical exam waived than the mortality on all fully underwritten business (including random holdouts). This mortality slippage is likely due to information that would have been caught by the fluids and/or paramedical exam but was missed by the algorithm.

The mortality slippage estimates here are based on expected mortality differentials while the estimates in the previous section were estimated based on random holdout and post-issue audit findings. The purpose of looking at mortality slippage in multiple ways is to try to better understand what can be expected. Another estimate is provided in the reinsurance survey results section (5.3) of the report.



Other insights can be found in the comments provided:

- Assume 15% slippage on all AUW offers, since low throughput, do not expect 15% on eligible.
- Minimal claim activity from AU expected in 2022.
- Not sure what is meant by "mortality". Accelerated cases have much lower raw mortality than fully underwritten, because we carve out the cases with worse expected mortality. So probably <90% for all 3 columns. But if you mean "how does best class mortality under acceleration compare with best class mortality not accelerated", then I'd say accelerated is very slightly higher (maybe 3% higher, resulting in 1% overall increase in mortality).
- Policies with fluids waived tend to be healthier applicants and get better risk classes. We do not, however, expect a fluidless applicant to have lower mortality than an equally-rated fully underwritten applicant.
- Ratio varies by issued underwriting class. Above represents aggregate by age group.
- Weighted by count of expected assumption not actual amount issued. Mortality load is significantly higher for 18-29 than 30-39.

For all AU programs, please provide the percentage of contestable and non-contestable claims incurred by year. We will summarize these results in ranges, once we analyze the responses. If your answer is 10% or 0.1, please enter "10". The six answers for each year should add up to 100%.

Table 4-52

PERCENTAGE OF CONTESTABLE AND NON-CONTESTABLE CLAIMS THAT WERE PAID, PENDING, DENIED, 2019, 2020, AND 2021 – ALL AU PROGRAMS

Percentage of Claims						
Measure	Contestable			Non-Contestable		
	Paid	Pending	Denied	Paid	Pending	Denied
2019 Actual						
Low	0%	0% (9)	0% (6)	0% (4)	0% (9)	0% (9)
Average	59%	0%	8%	33%	0%	0%
High	100% (3)	0% (9)	33% (2)	100%	0% (9)	0% (9)
Total Respondents	9	9	9	9	9	9
2020 Actual						
Low	0%	0% (9)	0% (6)	0% (5)	0% (11)	0% (11)
Average	52%	2%	13%	33%	0%	0%
High	100% (3)	14%	40%	100%	3%	1%
Total Respondents	12	12	12	12	12	12
2021 Actual						
Low	0% (2)	0% (7)	0% (5)	0% (2)	0% (11)	0% (11)
Average	39%	3%	16%	42%	1%	0%
High	80%	10%	100%	100%	6%	3%
Total Respondents	12	12	12	12	12	12

Respondent Comments:

- All claims in durations 1-2 considered contestable.
- All claims within 2 years are contestable, so any new program's claims will always be primarily contestable.
- All is contestable within first 2 years.
- Almost no claims are contestable, and of those that are, almost none are denied.
- Do not have this readily available.
- Do not have AU separated out but currently have less than 20 claims in all years with 0 claims denied.
- For AU these numbers are not credible. Total claims, 2019 - 1, 2020 - 1, 2021 – 6.
- No AUW claims have been reported yet since our program is so young.
- Not available. (two)
- Only 14 deaths in the period.
- Only 1 claim in 2021.
- 2 AUW claims to date, both contestable, one fully paid, one denied with ROP.
- We have less than 10 claims in total for the entire AU program experience, not tracking at this level of detail.
- We've had 0 so far.
- We have not incurred our first AU claim as of this date.

Nine companies responded for 2019 and 12 companies responded for 2020 and 2021. Based on the results and the comments, we can conclude that it is too early to determine the results on paid, pending, and denied claims as many companies had very limited, if any, claims and for many companies, the experience was still within the contestable period. It was also pointed out that AU claims may not be separated out from fully underwritten claims.

That said, it appears that there is an increasing trend in pending and denied contestable claims, with the averages moving from a combined 8% in 2019 to 15% in 2020 and 19% in 2021. This increasing trend is not seen in Table 4-53 showing fully underwritten results.

Paid contestable claims have also dropped over this period, with averages decreasing from 59% in 2019 to 52% in 2020 and 39% in 2021. This trend is also not seen in fully underwritten results below.

For all full underwriting programs, please provide the percentage of contestable and non-contestable claims incurred by year. We will summarize these results in ranges, once we analyze the responses. If your answer is 10% or 0.1, please enter "10". The six answers for each year should add up to 100%.

Table 4-53

PERCENTAGE OF CONTESTABLE AND NON-CONTESTABLE CLAIMS THAT WERE PAID, PENDING, DENIED, 2019, 2020, AND 2021 – ALL FULLY UNDERWRITTEN PROGRAMS (INCLUDING RANDOM HOLDOUTS)

Percentage of Claims						
Measure	Contestable			Non-Contestable		
	Paid	Pending	Denied	Paid	Pending	Denied
<b>2019 Actual</b>						
<b>Low</b>	0%	0% (10)	0% (6)	0%	0% (7)	0% (9)
<b>Average</b>	<b>9%</b>	<b>0%</b>	<b>2%</b>	<b>88%</b>	<b>0%</b>	<b>0%</b>
<b>High</b>	81%	0%	19%	100%	1%	5%
<b>Total Respondents</b>	11	11	11	11	11	11
<b>2020 Actual</b>						
<b>Low</b>	0%	0% (9)	0% (5)	0% (2)	0% (9)	0% (10)
<b>Average</b>	<b>14%</b>	<b>1%</b>	<b>5%</b>	<b>78%</b>	<b>2%</b>	<b>0%</b>
<b>High</b>	84%	8%	44%	100%	26%	4%
<b>Total Respondents</b>	13	13	13	13	13	13
<b>2021 Actual</b>						
<b>Low</b>	0%	0% (9)	0% (6)	0% (2)	0% (7)	0% (10)
<b>Average</b>	<b>15%</b>	<b>1%</b>	<b>4%</b>	<b>78%</b>	<b>2%</b>	<b>0%</b>
<b>High</b>	89%	7%	33%	100%	20%	1%
<b>Total Respondents</b>	13	13	13	13	13	13

Respondent Comments:

- 0 so far.
- All is contestable within first 2 years.
- Almost no claims are contestable, and of those that are, almost none are denied.
- Do not have this readily available.
- Most policies are inforce for decades before a death claim. Contestable claims easily round to 0.
- Non-contestable unknown.
- Not available. (two)
- The missing data is unavailable at this time or too immaterial.
- The total death count for 2019-2021 is < 50.
- Very few denied cases - contestable or non-contestable. Don't have the exact data readily available.

Eleven companies responded for 2019 and 13 responded for 2020 and 2021.

The results that appeared to be most consistent were paid non-contestable claims, which averaged 88% in 2019 and 78% in both 2020 and 2021.

For the best preferred and standard nonsmoker risk classes, on your most prevalent AU program, what is your lapse assumption on the policies that have the fluid tests and/or paramedical exam waived, and what is your lapse assumption on the policies that go through full underwriting (including random holdouts) in 2022? Please enter the lapse assumption for the first two durations. If your answer is 10% or 0.1, please enter "10".

If there are less than 5% of the policies in the best preferred nonsmoker risk class, combine the top two best preferred nonsmoker risk classes for this question (and indicate that you have done this in the Comments section).

Table 4-54

LAPSE ASSUMPTIONS FOR 2022 FOR MOST PREVALENT AU PROGRAM (ON POLICIES THAT HAVE FLUID TESTS AND/OR THE PARAMEDICAL EXAM WAIVED) AND FULLY UNDERWRITTEN PROGRAM (INCLUDING RANDOM HOLDOUTS)

Lapse Assumption Percentage by Risk Class – 2022				
Measure	Most Prevalent AU Program		Fully Underwritten Program	
	Duration 1	Duration 2	Duration 1	Duration 2
<b>Best Preferred Nonsmoker Risk Class</b>				
Low	2%	2%	2%	2%
Average	7%	6%	6%	5%
High	30%	21%	20%	20%
Total Respondents	16	16	16	16
<b>Standard Nonsmoker Risk Class</b>				
Low	2%	2%	2%	2%
Average	9%	7%	7%	6%
High	30%	21%	21%	20%
Total Respondents	15	15	16	16

Respondent Comments:

- Assumed lapse rates depend on product, and the AU assumption is not different from the non-AU assumption.
- Don't vary lapse assumption by underwriting type.
- Lapse rates vary by product. We sell several products through our most prevalent AU program. Lapse rates do not vary by underwriting.
- Lapse assumptions do not currently vary by UW type or risk class.
- Lapse assumption varies significantly by product. We assume same lapse rate for AU and for FUW.
- No difference between AU and full underwriting. Year 1/2 lapses are exceptionally low for both.
- Standard classes not eligible for AU.
- These are based on an average of pricing cells. We use granular lapse rate assumptions by age, face amount, risk class, policy term.
- This is our 20-year term assumption, our highest selling product.
- Unknown.
- We do not vary lapse by AU or Full UW.
- We don't currently vary the lapse assumption by AU flag.
- We don't have cases that require exams and fluids.

As many of the comments indicated there was no difference in lapse assumptions between AU and fully underwritten products, we counted the companies with no differences. Three companies had differences for both the best preferred nonsmoker and standard nonsmoker risk classes, and one company provided standard nonsmoker results for their fully underwritten program, but not their AU program.

There are a number of comparisons to make regarding lapse rates. The lapse assumptions were generally consistent, but there are some differences. Focusing on the averages, lapse rates were slightly higher for:

- Duration 1 vs. Duration 2
- Standard nonsmoker risk class vs. Best preferred nonsmoker risk class
- Most prevalent AU program vs. Fully underwritten program (note this is based on the limited data described above)

For your most prevalent AU program, how does your lapse experience differ from what you expected and to the experience on policies that were fully underwritten (including random holdouts) over the same period by calendar year? If your experience for policies that qualified to have fluid tests and/or paramedical exam waived was 7% and you expected the lapse rate to be 8%, express your response as “-1” (= 7% - 8%). If your experience for policies that qualified to have fluid tests and/or paramedical exam waived was 7% and your fully underwritten experience was 4%, express your response as “3” (= 7% - 4%).

Table 4-55

LAPSE EXPERIENCE FOR 2019, 2020, AND 2021 FOR MOST PREVALENT AU PROGRAM (ON POLICIES THAT HAVE FLUID TESTS AND/OR THE PARAMEDICAL EXAM WAIVED) COMPARED TO ASSUMPTIONS AND TO FULLY UNDERWRITTEN PROGRAM (INCLUDING RANDOM HOLDOUTS)

Percentage Difference				
Measure	Lapse Experience on Most Prevalent AU Program vs.			
	AU Program Expected		Fully Underwritten Program	
	Duration 1	Duration 2	Duration 1	Duration 2
<b>2019 Actual</b>				
Low	-6%	-6%	-2%	-1%
Average	0%	0%	2%	1%
High	5%	5%	18%	10%
Total Respondents	12	12	12	12
<b>2020 Actual</b>				
Low	-6%	-6%	-3%	-1%
Average	-2%	0%	1%	1%
High	2%	3%	18%	10%
Total Respondents	12	12	12	12
<b>2021 Actual</b>				
Low	-6%	-6%	-3%	-1%
Average	-2%	0%	1%	3%
High	3%	5%	18%	11%
Total Respondents	12	11	12	11

Respondent Comments:

- A/E roughly 1, this is more detailed than what we get into.
- Do not know.
- Fully underwritten lapse experience has been consistent with expectations, so values are the same in both rows.
- Lower than expected lapse rates in 2020-2021 due to behavior changes in a pandemic.
- NA.
- No difference between AU and full underwriting. Year 1/2 lapses are exceptionally low for both.
- Our experience study combines exposure years to get a credible number of lapses.
- This is a very difficult question to answer given our dynamic lapse rates. Overall, AU lapse is higher than FUW, but all lapses have been running well below expected since 2018 including further decreases in 2020 and 21 due to COVID.
- This is our 20-year term assumption, our highest selling product.
- Unknown.
- We do not currently track experience by UW type.
- We have not studied AU separately at this point.

The results are expressed as the actual lapse rate minus either the expected or fully underwritten lapse rate. A positive percentage in Table 4-55 above means the actual lapse rate is greater than expected or fully underwritten experience and a negative percentage means the actual lapse rate is less than expected or fully underwritten experience.

The first observation that cannot be seen in Table 4-55 above is that in all comparisons, more companies had actual lapse rates less than both expected and fully underwritten experience in Duration 1 than Duration 2. Also, for Duration 1 in 2020 and 2021, more than half of the responding companies had actual lapse rates less than expected.

As can be seen in Table 4-55, there was a wider range of results when compared to fully underwritten (-3% to 18% in Duration 1 for 2020 and 2021) than compared to expected (the widest range being -6% to 5% in Duration 2 for 2019 and 2021). That said, the averages across all comparisons were close to expected and fully underwritten, ranging from -2% to 3%. Of the 12 average comparisons, four comparisons to expected were 0% and four comparisons to fully underwritten were 1%.

When compared to expected, all averages were either at expected (0%) or slightly less than expected (-2%). When compared to fully underwritten, all averages were slightly more than fully underwritten (1% to 3%).



Have you noticed a difference in post-level premium term lapse rates since the introduction of your AU programs?

Select only one.

- Yes, post-level premium term lapse rates are higher
- Yes, post-level premium term lapse rates are lower
- No, post-level premium term lapse rates are about the same
- Do not know

It appears from many comments that a number of the respondents misunderstood the intent of the question and answered it based on the AU program itself. Therefore, no comments or results are being shown.

#### 4.14 DEMOGRAPHICS

Have your applicant demographics/distributions changed since the introduction of your AU programs?

Table 4-56

#### HAVE APPLICANT DEMOGRAPHICS/DISTRIBUTIONS CHANGED SINCE THE INTRODUCTION OF AU PROGRAMS?

Was there a change in demographics / distributions?	Number of Companies
Yes	6
No	15
<b>Total Respondents</b>	<b>21</b>

Respondent Comments:

- Changed as a result of a new distribution channel; otherwise, it has not changed.
- % of applicants over age 60 dropped from 21% to 16%.

Twenty-one companies responded to this question. Forty percent indicated that applicant demographics/distributions changed since the introduction of AU programs.

How did the demographics/distribution of your applicants change since the introduction of your AU programs? Check all that apply.

Table 4-57

HOW DEMOGRAPHICS/DISTRIBUTION OF APPLICANTS CHANGED SINCE INTRODUCTION OF AU PROGRAMS

Type of Change	Number of Companies
Age	5
Face amount of coverage applied for	5
Health conditions	2
State of issue/residence or geographic region	2
<b>Total Respondents</b>	<b>6</b>

Respondent Comments:

- Age younger (84% age 60 and under, versus 79% before launch of program). Face amounts much larger, across younger and older ages alike (maybe 10-20% larger on average). In 2022 applicants seem much less healthy. WA Cares caused big jump in WA applications with LTC rider, otherwise not much change.
- Higher rate of impairments in business from new channel.
- In the last couple of years we've seen some of our younger / lower face amount customers migrate to simplified issue. This is driven largely by distribution.
- No observed change.
- Not available. (two)

Of the limited number of companies reporting demographic changes since the introduction of AU, over 80% reported changes by age and face amount applied for, and one-third reported changes in health conditions and state of issue/residence or geographic region. Two companies were more explicit, as can be seen in the comments above. One company indicated business for ages 60 and under grew and face amounts across all ages were higher. This company also indicated that the applicants seemed less healthy in 2022. The other company indicated that younger/lower face amount customers moved to simplified issue.

#### 4.15 REINSURANCE

What percentage (by amount) of your new business is reinsured? Please answer for both all AU programs and all full underwriting programs. If your answer is 10% or 0.1, please enter "10".

Table 4-58

#### PERCENTAGE (BY AMOUNT) OF NEW BUSINESS REINSURED

Percentage of New Business Reinsured		
Measure	All AU Programs	All Fully Underwritten Programs
<b>2019 Actual</b>		
<b>Low</b>	0% (7)	0%
<b>Average</b>	<b>42%</b>	<b>41%</b>
<b>High</b>	100%	90%
<b>Total Respondents</b>	20	19
<b>2020 Actual</b>		
<b>Low</b>	0% (7)	0%
<b>Average</b>	<b>42%</b>	<b>41%</b>
<b>High</b>	100%	90%
<b>Total Respondents</b>	20	19
<b>2021 Actual</b>		
<b>Low</b>	0% (8)	0%
<b>Average</b>	<b>38%</b>	<b>39%</b>
<b>High</b>	100%	90%
<b>Total Respondents</b>	22	20

Respondent Comments:

- 90% of term, 50% of permanent is reinsured
- Not available (two)
- Not reinsured [All AU programs and all fully underwritten programs]
- Numbers are very small percentages: 0.13%, 0.15%, etc.
- Term consistently reinsured at 60%. Insufficient data to split by AU eligible vs full.
- The full underwriting programs have varied over the years and this information is currently unavailable.

Responses ranged from 19-22 companies. One or two more companies responded to 2021 vs. 2019 and 2020. The amount reinsured ranged from none to 100% for all AU programs and from none to 90% for all fully underwritten programs across all three years.

While only one respondent indicated they do not reinsure fully underwritten business, about one-third of the respondents indicated that they do not reinsure AU programs.

Averages (38%-42%) were consistent between AU and fully underwritten programs. The average percentage reinsured decreased slightly in 2021, but that could have been due to one to two additional companies that may have had a lower percentage.

Among those companies that reinsure AU programs, the average percentage reinsured was 64%, 65%, and 60% for years 2019, 2020, and 2021, respectively. This recalculation also shows a slight decrease in 2021.

#### 4.16 EXPERIENCE STUDIES

Do you track your AU program(s) changes in your experience studies?

Table 4-59

##### ARE AU PROGRAM CHANGES TRACKED IN EXPERIENCE STUDIES?

AU program changes tracked?	Number of Companies
Yes	14
No	9
<b>Total Respondents</b>	<b>23</b>

Respondent Comments:

- Not yet enough experience overall to incorporate in studies, let alone have multiple generations.
- Planning to track.
- Too early to tell much.
- We don't explicitly track changes, but we have the ability to do so if needed.
- We have not had significant changes. If/when we do, then we will separate the experience into different underwriting eras.
- We track changes but do not have enough experience to produce credible studies using by AU program era.

All but one company responded to this question and over 60% indicated they track their AU program(s) in experience studies. Most of the comments indicate that it is either too early to see differences in experience or that they don't have enough data yet to see differences.

#### 4.17 GENERAL/OPINION QUESTIONS

This section wraps up the survey with a series of general and/or opinion-related questions regarding AU programs. Some of the questions were the same questions asked in the reinsurer survey. Similarities and differences in answers to the same questions will be covered in the section of the report that discusses the reinsurer survey results.

Companies were asked to rank their top five choices from a pre-determined list, although they were also allowed to provide different answers. For each of the questions, the Total Respondents row shows how many companies responded to that particular rank. The Total Respondents in the Weighted Rank column shows how many companies responded to the question, including those who just provided a comment, but no ranking.

There were also a number of write-in votes. It should be pointed out that if we had included that item as an original choice, it may have received more votes.

What were your five biggest challenges in designing/developing all AU programs? You can answer this question any way you want (e.g., by level of difficulty, by time, etc.). Please rank your top five, using “1” for the biggest challenge and “5” for the fifth biggest challenge.

Table 4-60

## TOP FIVE CHALLENGES TO DESIGNING/DEVELOPING AU PROGRAM

Challenge	Rank					Weighted Rank
	1	2	3	4	5	
	Number of Companies					
IT/Systems to implement program	8	2	2	2	2	60
Limiting misclassification	2	4	2	0	1	33
Data sources – new or emerging	2	2	3	2	0	31
Limiting misrepresentation/fraud	1	2	3	2	0	26
Algorithm creation/development	1	1	2	2	3	22
Communication	3	1	0	0	2	21
Buy-in from Underwriters	1	0	2	3	1	18
Buy-in from Marketing/Distribution	1	2	1	0	1	17
Assumption setting	1	1	2	1	0	17
IT/Systems to manage/monitor program	1	1	1	0	2	14
Data – determining what to use	1	1	0	2	1	14
Program design	0	2	1	1	1	14
Buy-in from Actuaries	1	1	0	1	0	11
Regulatory understanding	0	1	0	2	2	10
Liars/clean-sheeters (other than smoker liars)	0	0	3	0	1	10
Buy-in from Management	1	1	0	0	0	9
Smokers who lie about smoking	0	1	0	1	1	7
Mortality assumptions	0	0	1	1	0	5
Other - Internal Model Governance	0	1	0	0	0	4
Buy-in from Reinsurers	0	0	0	2	0	4
Other - Application Design	0	0	1	0	0	3
Training	0	0	0	1	1	3
Vendors – determining which to use	0	0	0	0	3	3
Preferred criteria updates	0	0	0	1	0	2
Buy-in from Other internal stakeholders	0	0	0	0	1	1
Post-issue audits	0	0	0	0	1	1
Lapse assumptions	0	0	0	0	0	0
Random holdout percentage	0	0	0	0	0	0
Rescissions from post-issue audit findings	0	0	0	0	0	0
<b>Total Respondents</b>	24	24	24	24	24	24

Respondent Comments:

- This was the state in 2016. We used a consultant which eased the path for algorithm development and program design. Getting buy-in would no longer be a challenge.

The top five challenges to designing/developing an AU program were IT/Systems to implement a program (weighted rank of 60, almost double the second highest ranking), followed by limiting misclassification (33), data sources – new or emerging (31), limiting misrepresentation/fraud (26), and algorithm creation/development (22). Communication was sixth with a weighted rank of 21. All of these are important to developing an AU program. Buy-ins from various parties, monitoring, and catching smokers were among the other categories ranking lower.

The 2019 Survey asked this same question, and the top five answers, and corresponding weighted rank, were IT/Systems to implement (47), creating algorithm (45), design of program (42), catching smoker liars (39), and agent buy-in (32), with determining mortality assumptions (28) coming in a close sixth. Observations between the surveys include:

- IT/Systems to implement was the biggest challenge in both surveys, although the difference between the first and second ranking was much larger in the 2022 Survey.
- Algorithm creation was in both top five lists
- Limiting misclassification and misrepresentation/fraud were in the current survey and catching smoker liars was in the 2019 Survey
- Data sources and communication were the other top choices in the current survey, while design of the program, agent buy-in, and determining mortality assumptions were the other top choices in the 2019 Survey. As the programs have become more common, agent buy-in has become less of an issue (rank eight in the current survey) and mortality assumptions are now better understood (rank 18 in the current survey).



Rank the top five sources of data that you believe provide the best assessment of mortality in an AU program. Please rank your top five, using “1” for the best data source and “5” for the fifth best data source.

Table 4-61

## TOP FIVE DATA SOURCES THAT BEST ASSESS MORTALITY FOR AU PROGRAMS

Data Source	Rank					Weighted Rank
	1	2	3	4	5	
	Number of Companies					
Prescription history data	6	12	4	2	0	94
Application data	13	4	2	1	3	92
MIB data	2	2	8	6	5	59
Medical claims data	1	3	3	5	1	37
Electronic health record data	1	2	0	5	1	24
Credit data/credit attribute-based risk score(s)	1	0	3	1	4	20
MVR data	0	0	2	3	6	18
Other - <u>Diagnosis Data</u>	0	1	0	0	0	4
Other FCRA-approved data - <u>APS</u>	0	0	1	0	0	3
Other FCRA-approved data - <u>Tele-interview</u>	0	0	1	0	0	3
Criminal data	0	0	0	1	0	2
Smoker propensity data	0	0	0	0	1	1
Other FCRA-approved data - <u>LabPiQture</u>	0	0	0	0	1	1
Financial data	0	0	0	0	0	0
Wearable data	0	0	0	0	0	0
Other Non-FCRA-approved data _____	0	0	0	0	0	0
<b>Total Respondents</b>	24	24	24	24	22	24

Respondent Comments:

- Only including ones we get always, or sometimes. Would love to have medical claims data.
- We don't have a 5th category.

The top five data sources for best assessing mortality were prescription history data (weighted rank of 94) and application data (92), both almost double the next highest data source. These were followed by MIB data (59) and medical claims data (57), the latter being a more recent source of data. Both of these were more than double the fifth top data source, which was electronic health record data (24). What stands out here is how much higher the weighted rank of the top items, prescription history data and application data, were relative to any of the other items.

The sixth data source, credit data/credit attribute-based risk score, was close with a weighted rank of 20. MVR data (18) was next, and this was followed by a number of write-ins, including Diagnosis data and several FCRA approved data sources (APS, tele-interview, and LabPiQture).

With the introduction of AU programs, fraud is becoming more prevalent. Rank the top five tools that you believe best mitigate fraudulent practices. Please rank your top five, using “1” for the best tool and “5” for the fifth best tool.

Table 4-62

## TOP FIVE POTENTIAL TOOLS TO COMBAT FRAUD FOR AU PROGRAMS

Tool	Rank					Weighted Rank
	1	2	3	4	5	
	Number of Companies					
Identification check (authentication/verification)	6	2	1	6	0	53
Post-issue audits	3	5	3	0	1	45
Random holdouts	2	6	0	4	2	44
Agent monitoring	1	2	5	2	5	37
Application question wording	1	2	4	4	2	35
Applicant interview	3	0	3	1	1	27
Application review of answers	2	0	1	1	1	16
Manual review	0	1	1	2	3	14
Smoker propensity model	1	0	2	0	0	11
Other - Prescription data/Rx check	1	1	0	0	0	9
Other – MIB	0	2	0	0	1	9
Inspection report	0	1	1	0	1	8
Vendor tool	1	0	0	0	2	7
Other - Trusted agent/client relationship	1	0	0	0	0	5
Other - Diagnosis data	1	0	0	0	0	5
Other - due diligence when potential insured becomes client	0	1	0	0	0	4
Reinsurer review	0	0	1	0	0	3
Other - APS (not always obtained)	0	0	0	0	1	1
Agent interview	0	0	0	0	0	0
<b>Total Respondents</b>	<b>23</b>	<b>23</b>	<b>22</b>	<b>20</b>	<b>20</b>	<b>24</b>

Respondent Comments:

- We do not see an issue with fraud among our clients.
- Currently only utilizing the two methods selected.

The top five potential tools to combat fraud for AU programs included identification check, including authentication and/or verification (weighted rank of 53), post-issue audits (45), random holdouts (44), agent monitoring (37), and application question wording (35). Applicant interview (27) was ranked sixth. There were a number of write-ins for this question; in rank order, they were prescription data/Rx check, MIB, trusted agent/client relationship, diagnosis data, due diligence when potential insured becomes client, and APS.

What do you consider to be the top five drivers for the best design, implementation, and overall success of an AU program? Please rank your top five, using "1" for the best driver and "5" for the fifth best driver.

Table 4-63

## TOP FIVE DRIVERS FOR BEST DESIGN, IMPLEMENTATION, AND OVERALL SUCCESS OF AU PROGRAMS

Driver	Rank					Weighted Rank
	1	2	3	4	5	
	Number of Companies					
Customer experience	5	4	1	0	1	45
Data collected	4	1	4	3	0	42
Algorithm used	1	5	5	0	1	41
Monitoring the business/experience	1	2	4	5	5	40
Objectives of program are clear	5	2	1	1	1	39
Application design	3	2	0	2	0	27
Ability to respond to findings quickly	2	1	2	0	2	22
Back-testing	1	2	2	1	0	21
Limiting misrepresentation/fraud	1	2	0	2	3	20
Start small and expand	1	0	1	2	5	17
Communication	0	2	2	1	1	17
Qualification percentage	0	1	0	1	0	6
Reinsurer buy-in	0	0	1	1	1	6
Distribution channel	0	0	1	1	0	5
Random holdouts	0	0	0	1	3	5
Applicants targeted	0	0	0	1	0	2
Regulatory understandings	0	0	0	1	0	2
Other: Reduce underwriter workload	0	0	0	1	0	2
Training	0	0	0	0	1	1
Post-issue audits	0	0	0	0	0	0
Smoker propensity model	0	0	0	0	0	0
<b>Total Respondents</b>	24	24	24	24	24	24

The top five drivers for best design, implementation, and overall success of AU programs were customer experience (weighted rank of 45), data collected (42), algorithm used (41), monitoring the business/experience (40), and objectives of program are clear (39), all relatively close in rank. Other weighted ranks that were 20 or higher included application design (27), ability to respond to findings quickly (22), back-testing (21), and limiting misrepresentation/fraud (20).

One comment was received:

We have an AU program for our Life/LTC combo product, but do not have sufficient data at this time to include it in any part of this survey (including parts that say "all au programs" or "AU programs other than the most prevalent").

## Section 5: Reinsurer – AU Practices

The Reinsurer AU Practices survey contained six questions, but some of the questions had multiple parts. A summary of the results is provided in subsection 5.1. The remaining subsections provide the actual results for each question. The results will be covered in the order of the survey. Where meaningful, results are compared to the 2019 SOA Reinsurer AU Practices survey. Seven reinsurers responded to the survey.

### 5.1 REINSURER SURVEY SUMMARY

By face amount, the percentage of new life insurance business assumed by reinsurers under AU programs ranged from less than 1% (in 2019) to 32% (in 2022). The average percentage increased from 6% in 2019 to 15% in 2022. (p.95)

Six of the seven reinsurers indicated that they thought about half or most of the growth in 2020 and 2021 was in response to COVID-19. (p.96)

Reinsurers were asked to estimate the excess mortality (slippage) among their clients with lower and higher expected mortality slippage. For the clients with lower expected slippage, most reinsurers indicated the slippage was or would be in the 1-5% range. For clients with a higher expected mortality slippage, most reinsurers indicated the slippage was or would be over 20%. (p.97)

The reinsurers were asked some of the same opinion questions as the direct companies. The top five responses for each of these questions are shown below in rank order:

The top five data sources that best assess mortality for AU programs were: (p.103)

- Prescription history data
- Electronic health record data
- Application data
- Medical claims data
- Credit data/credit attribute-based risk score(s)

All but the answer on Credit data is the same as the direct company survey, although rankings are in a different order.

The top five potential tools to combat fraud for AU programs were: (p.105)

- Random holdouts
- Post-issue audits
- Identification check (identification/verification)
- Agent monitoring
- Application question wording

These are the same answers as the direct company survey, but the rankings are in a different order.

The top five drivers for best design, implementation, and overall success of AU programs were: (p.107)

- Monitoring the business/experience
- Applicants targeted
- Objectives of program are clear
- Limiting misrepresentation/fraud
- Distribution channel

Only “Monitoring the business/experience” and “Objectives of the program are clear” are in the top five of the direct company response.

## 5.2 AU PROGRAM

The survey began with a definition of “AU Program”, which is shown below. This is the same definition for the Direct Company AU Practices survey.

An “AU Program” is a program used for life insurance products where an applicant can have certain underwriting requirements waived, such as forgoing insurance fluid requirements and a paramedical exam, if they meet certain qualifications, typically determined by an algorithm used for this purpose. This algorithm will also typically determine the risk class the applicant will be offered. Simplified issue and guaranteed issue underwriting programs should be excluded from this definition.

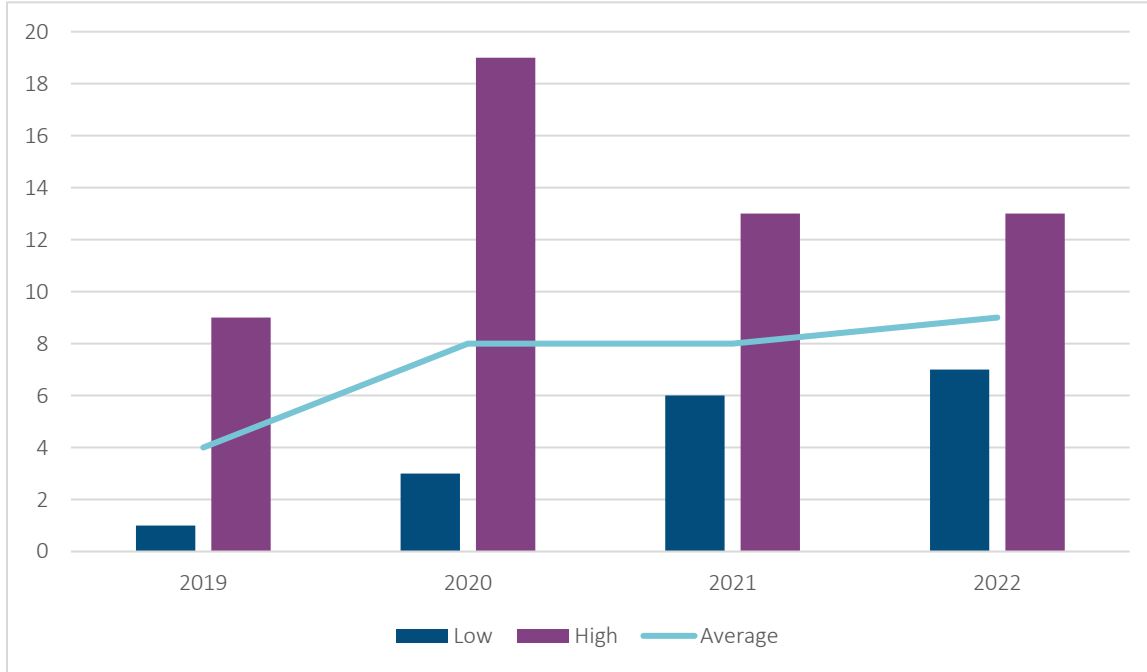
What percentage of new life insurance business ceded to you was issued under an AU program and had the insurance fluid requirements and a paramedical exam waived? Answer by policy count and face amount for each of the following years. If your answer is 20% or 0.2, please enter "20".

Note that one reinsurer did not respond to this question. Also, for the display of results, we rounded to the near percentage for two reinsurers that provided us with decimal responses. However, the decimals were kept in for the calculation of averages.

Results for the averages are shown graphically in Figure 5-1 and additional details are provided in Table 5-2.

**Figure 5-1**

**PERCENTAGE OF LIFE NEW BUSINESS ASSUMED UNDER AN AU PROGRAM BY POLICY COUNT**



**Table 5-2**  
**PERCENTAGE OF LIFE NEW BUSINESS ASSUMED UNDER AN AU PROGRAM**

Percentage of Life New Business Assumed Under an AU Program		
Measure	Policy Count	Face Amount
<b>2019 Actual</b>		
Low	< 1%	< 1%
Average	<b>4.3%</b>	<b>6.4%</b>
High	9%	20%
Total Respondents	4	6
<b>2020 Actual</b>		
Low	3%	5% (2)
Average	<b>8.0%</b>	<b>11.8%</b>
High	19%	37%
Total Respondents	4	6
<b>2021 Actual</b>		
Low	6% (2)	7%
Average	<b>8.0%</b>	<b>12.1%</b>
High	13%	23%
Total Respondents	4	6
<b>2022 Expected</b>		
Low	7%	7%
Average	<b>9.0%</b>	<b>15.4%</b>
High	13%	32%
Total Respondents	4	5

Respondent Comments:

- Leaving 2022 blank. We report by Face.
- Results by face amount shown for reinsured face amount.
- Unable to provide data.
- We are not able to provide policy counts for AU-specific business due to internal reporting constraints.

The percentage of new life insurance business ceded under AU programs ranged from less than 1% in 2019 to as high as 32% in 2022 among the reinsurers providing information.

Among the four reinsurers that provided results in all four years, the average percentage increased from 4.3% in 2019 to 8% in 2020, the year COVID-19 began, and then remained relatively flat after that at 8% again in 2021 and 9% in 2022. By face amount, the average percentage increased from 6.4% in 2019 to 11.8% in 2020 and then was similar in 2021 at 12.1%. There was a further increase in 2022 to 15.4%, but this included one less company.

The average percentage increased more by face amount than by policy count because the face amount eligible for AU programs increased for many companies because of COVID-19 and the need to change underwriting when paramedical examiners could not go into homes.

What proportion of the growth in AU programs in 2020 and 2021 do you think was in response to COVID-19?

Table 5-3

PROPORTION OF GROWTH IN AU PROGRAMS IN 2020 AND 2021 DUE TO COVID-19

Choice	Number of Companies
None	0
A little	1
About half	3
Most	3
All	0
Did not see growth	0
<b>Total Respondents</b>	<b>7</b>

Respondent Comments: None

Six of the seven reinsurers indicated that they thought about half or most of the growth in 2020 and 2021 was in response to COVID-19.



### 5.3 EXCESS MORTALITY (MORTALITY SLIPPAGE) AND EXCESS LAPSE

Understanding the potential excess mortality and lapses experienced by carriers using AU programs is a difficult task because many of the AU programs are new. We would like to better understand these excess levels under AU programs as compared to similar programs with full underwriting. Answer by policy count and face amount for 2019, 2020, 2021, and 2022 expected.

Indicate the range of excess mortality in which your clients with the lowest and highest level of excess mortality fall. For each of these clients, we are asking for how the expectations vary by year and by age group. Note that the clients with the lowest and highest excess mortality can vary for each of the categories below. There should be one X in each column.

Answer the question based on your assumed level premium term business only.

Note also that negative excess mortality shown below means that policies issued under an AU program are expected to have better (lower) mortality than the policies issued under similar programs with full underwriting.

“Averages” were calculated using the midpoints of each range, and 25% for the >20% category and -13% for the < -10% category.

Table 5-4

#### ESTIMATE OF EXCESS MORTALITY (SLIPPAGE) FOR CLIENTS WITH LOWEST AND HIGHEST LEVELS OF EXCESS MORTALITY, SPLIT BY AGE GROUP

2019	Expected Excess Mortality Slippage (Number of Reinsurers)					
	Clients with Lowest Expected Slippage			Clients with Highest Expected Slippage		
	Lowest AU Eligible Issue Age to 39	40 to Highest AU Eligible Issue Age	All AU Eligible Issue Ages	Lowest AU Eligible Issue Age to 39	40 to Highest AU Eligible Issue Age	All AU Eligible Issue Ages
>20%				3	4	4
16% to 20%						
11% to 15%				1		
6% to 10%						
1% to 5%	2	2	3			
0%	2	1	1	1	1	1
-1% to -5%	1	2	1			
-6% to -10%						
< -10%						
Average	0.6%	0%	1.2%	17.6%	20.0%	20.0%
Total Respondents	5	5	5	5	5	5

2020	Expected Excess Mortality Slippage (Number of Reinsurers)					
Excess Mortality (Slippage)	Clients with Lowest Expected Slippage			Clients with Highest Expected Slippage		
	Lowest AU Eligible Issue Age to 39	40 to Highest AU Eligible Issue Age	All AU Eligible Issue Ages	Lowest AU Eligible Issue Age to 39	40 to Highest AU Eligible Issue Age	All AU Eligible Issue Ages
>20%				3	4	4
16% to 20%				1		
11% to 15%				1	1	1
6% to 10%						
1% to 5%	3	3	3			
0%	1	2	2			
-1% to -5%	1					
-6% to -10%						
< -10%						
<b>Average</b>	<b>1.2%</b>	<b>1.8%</b>	<b>1.8%</b>	<b>21.2%</b>	<b>22.6%</b>	<b>22.6%</b>
<b>Total Respondents</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>

2021	Expected Excess Mortality Slippage (Number of Reinsurers)					
Excess Mortality (Slippage)	Clients with Lowest Expected Slippage			Clients with Highest Expected Slippage		
	Lowest AU Eligible Issue Age to 39	40 to Highest AU Eligible Issue Age	All AU Eligible Issue Ages	Lowest AU Eligible Issue Age to 39	40 to Highest AU Eligible Issue Age	All AU Eligible Issue Ages
>20%				5	5	6
16% to 20%						
11% to 15%						
6% to 10%			1			
1% to 5%	3	3	4			
0%	1	1				
-1% to -5%	1	1	1			
-6% to -10%						
< -10%						
<b>Average</b>	<b>1.2%</b>	<b>1.2%</b>	<b>2.8%</b>	<b>25%</b>	<b>25%</b>	<b>25%</b>
<b>Total Respondents</b>	<b>5</b>	<b>5</b>	<b>6</b>	<b>5</b>	<b>5</b>	<b>6</b>

2022	Expected Excess Mortality Slippage (Number of Reinsurers)					
Excess Mortality (Slippage)	Clients with Lowest Expected Slippage			Clients with Highest Expected Slippage		
	Lowest AU Eligible Issue Age to 39	40 to Highest AU Eligible Issue Age	All AU Eligible Issue Ages	Lowest AU Eligible Issue Age to 39	40 to Highest AU Eligible Issue Age	All AU Eligible Issue Ages
>20%				5	5	5
16% to 20%						
11% to 15%						
6% to 10%						
1% to 5%	3	3	3			
0%	1	1	1			
-1% to -5%	1	1	1			
-6% to -10%						
< -10%						
<b>Average</b>	<b>1.2%</b>	<b>1.2%</b>	<b>1.2%</b>	<b>25%</b>	<b>25%</b>	<b>25%</b>
<b>Total Respondents</b>	5	5	5	5	5	5

Respondent Comments: None

Six of the seven reinsurers responded to this question. One of the six responding reinsurers only answered for all AU eligible issue ages in 2021. There was a wide range of results/expectations between clients with lower and higher expected mortality slippage.

For clients with the lower expected mortality slippage, most reinsurers indicated the slippage was or would be in the 1-5% slippage range, with the next most common choices being no slippage or 1-5% improvement in mortality.

For clients with a higher expected mortality slippage, most reinsurers indicated the slippage to be over 20% in 2019 and 2020 and all indicated it to be over 20% in 2021 and 2022. For the reinsurers that indicated it was or would be less than 20%, two indicated it would be less for the lowest AU eligible age to 39 group and one indicated it would be less for the age 40 to highest eligible issue age group.

Note that the average across all ages does not always fall between the two age groups because some reinsurers did not provide age grouping responses consistent with the overall response. See, for example, the low client results for 2019 and 2021.

Mortality slippage for AU programs was estimated in several ways within the report:

- Direct company ratio of mortality under AU programs to mortality under fully underwritten programs (ranges given). See page 71.
- Direct company estimates of positive and negative findings on random holdouts (calculated based on finding estimates). See page 68.
- Direct company estimates of positive and negative findings on post-issue audits (calculated based on finding estimates). See page 68.
- Reinsurer estimates of slippage from clients with lowest expected mortality (ranges given). See page 97.
- Reinsurer estimates of slippage from clients with highest expected mortality (ranges given). See page 97.

In most cases, results were created for individual years 2019-2022. Since using all years would produce even wider results, the most recent year (2022) average results are summarized below:

**Table 5-5**  
**ESTIMATE OF MORTALITY SLIPPAGE IN 2022**

Method	Low	All Companies	High	Number of Respondents
<b>Direct Company Ratio of AU to Fully Underwritten</b>	<-10%	9%	>25%	20
<b>Direct Company Random Holdouts</b>	-4%	17%	70%	15
<b>Direct Company Post-Issue Audits</b>	0%	9%	15%	6
<b>Reinsurer Lowest Mortality Clients</b>	-3%	1%	3%	5
<b>Reinsurer Highest Mortality Clients</b>	>20%	>20%	>20%	5

In summary, there was a wide range of results, with some companies expected to have mortality better than on fully underwritten programs while others expected to have mortality slippage of 25% or more, e.g., our estimates indicated one company may have 70% mortality slippage. Among the direct company respondents, i.e., the first three methods above, the range of mortality slippage was 9% to 17%. Among the reinsurers' clients, the mortality slippage ranged from 1% for the clients with the lowest expected mortality to over 20% for the clients with the highest expected mortality.

In the 2019 Survey, similar calculations on random holdout and post-issue audit findings were conducted and those averages were both estimated at 8% mortality slippage, lower than the 17% and 9%, respectively, shown above.

Excess Lapse – Provide the results of (A - B), where:

A = Lapse rate of all AU eligible policies issued under an AU program and had the insurance fluid requirements and a paramedical exam waived

B = Lapse rate of all fully underwritten policies issued in the same era as A, including random holdouts

If A has a lapse rate of 7%, and B has a lapse rate of 5%, express your response as "2" (= 7% - 5%).

Year	Excess Lapse by			
	Policy Count		Face Amount	
	Duration 1	Duration 2	Duration 1	Duration 2
2019 (Actual)				
2020 (Actual)				
2021 (Actual)				
2022 (Expected)				

Only two reinsurers responded to this question so we cannot show the results. In general, the results ranged from 0 to -2.5%, i.e., from no difference to 2.5% less than fully underwritten programs.

Six of the seven reinsurers provided comments, which will provide some additional insights:

- Due to concentration of AUW lapse experience with one specific carrier, we respectfully opt out of this question.
- Lower lapses for AU are driven by risk class distribution. For example, AU policies are more likely to be best preferred where lapse rates are naturally lower.
- Results vary by company. Some see excess lapses for accelerated policies, others see lower lapses for accelerated policies. During the pandemic, previously observed differences between accelerated and non-accelerated lapses diminished.
- Unable to provide data. Information not available.
- We are currently in the process of updating our internal experience studies to include AU identifiers, so we are unable to provide this data until early 2023.
- We do not see much difference in lapse rates for AU vs. non-AU policies after reflecting difference in the mix by risk class, age, etc.

## 5.4 UNDERWRITING MANUAL UPDATES

Do you plan to update your underwriting manual in the near future for AU programs? Check all that apply.

Table 5-6

### PLANS FOR UPDATING UNDERWRITING MANUAL FOR AU

Plan	Number of Reinsurers
Recently updated for AU	1
Have not updated for AU	2
No current plans to update for AU	2
Do not believe it is necessary to update for AU	3
Plan to update in the next year	1
Plan to update in the next 2-3 years	0
Don't have an underwriting manual	0
Not sure	1
<b>Total Responses</b>	<b>10</b>
<b>Total Respondents</b>	<b>7</b>

Respondent Comments:

- Lifestyle risks were added which are relevant to health & wellness programs, but since H&W is not commonly used in US AU programs, we selected "not sure."
- The UW manual provides guidance on evaluating the mortality associated with various risks/impairments. The process to get there (AU, fluids, APS, etc.) doesn't impact the UW manual.
- We are creating a procedure manual for internal use. This covers high level procedures where we need consistency in handling.
- We don't see it as necessary at this time.

All seven reinsurers had underwriting manuals and responded to this question.

One reinsurer updated their underwriting manual for AU, while two reinsurers indicated they have not updated it and two indicated they had no current plans to update it. Three indicated they did not believe it necessary to update the manual for AU.

In terms of updating the underwriting manual in general, one reinsurer indicated they planned to update it in the next year and one was not sure.

## 5.5 GENERAL AND/OR OPINION-RELATED QUESTIONS

Similar to the end of the Direct Company survey, this section wraps up the Reinsurer survey with a series of general and/or opinion-related questions regarding AU programs. Some of the questions were the same questions asked in the direct company survey. Similarities and differences in answers to the same questions covered in the direct company section will be discussed here.

Rank the top five sources of data that you believe provide the best assessment of mortality in an AU program. Please rank your top five, using “1” for the best data source and “5” for the fifth best data source.

Table 5-7

### TOP FIVE DATA SOURCES THAT BEST ASSESS MORTALITY FOR AU PROGRAMS

Data Source	Rank					Weighted Rank
	1	2	3	4	5	
	Number of Companies					
Prescription history data	2	2	2	1	0	26
Electronic health record data	3	1	0	1	0	21
Application data	1	1	1	2	0	16
Medical claims data	0	2	1	1	3	16
Credit data/credit attribute-based risk score(s)	1	1	1	0	2	14
MIB data	0	0	0	2	1	5
MVR data	0	0	1	0	0	3
Other FCRA-approved data - <u>Clinical lab data (LabPiQture)</u>	0	0	1	0	0	3
Smoker propensity data	0	0	0	0	1	1
Criminal data	0	0	0	0	0	0
Financial data	0	0	0	0	0	0
Wearable data	0	0	0	0	0	0
Other Non-FCRA-approved data _____	0	0	0	0	0	0
<b>Total Respondents</b>	7	7	7	7	7	

All seven reinsurers responded to this question.

The reinsurers thought the top five data sources that best assess mortality for AU programs were prescription history data (weighted rank of 26), electronic health record data (21), application data and medical claims data (both at 16), and credit data/credit attribute-based risk score(s) (14).

The comments below may provide some additional insights. Note that there are also additional data sources mentioned, but they were not ranked, so they are not in the Table 5-7 above.

- Assuming equal hit rates across different sources.
- Credit data combined with public record / criminal data is also of value.
- EHR would be first if it had a higher hit rate. Please also note that having a strong application is critical! We just ranked it lower since AU programs generally have similar apps that collect the important information.
- Note that these were filled out as predictors of mortality not for the best underwriting tools for AU.
- Some AU programs include an APS only path where exam/labs are waived for certain cases but an APS is ordered to help underwrite the case. In these programs, the APS is very valuable (would probably rank #2 above). Credit data and associated mortality risk scores are also valuable and provide insight into the risk from non-medical perspective.
- The application is fundamental to the insurance buying process. It should always be considered in the mortality assessment for an applicant, particularly for AU. We have not included it here in our rankings in order to highlight other data sources that are [an] option for carriers, but that does not mean it is not an essential data source for assessing mortality.
- We are assuming there is no fraud or misrep motivating the sale, and purely looking at the assessment of the risk. We also assumed evidence is available with a positive hit on the individual case level.

In the 2019 Survey, a similar question was asked, i.e., components with the most impact on mortality. The top five answers were application data (15), FCRA-approved data (11), random holdout program (nine), qualification percentage goal (eight), and a tie between algorithm used and post-issue audits (seven each). Note that the answers likely differ because the list to choose from, while having some overlap, was different.

Comparing the results to the same question in this Direct Company survey, the top five responses were prescription history data (94), application data (92), MIB data (59), medical claims data (57), and electronic health record data (24). Prescription history data ranked first in both. Data/credit attribute-based risk score(s), which ranked five in the reinsurer survey, ranked six in the direct company survey. MIB data, which ranked three in the direct company survey, ranked six in the reinsurer survey. In conclusion, the top six choices were the same between the direct company and reinsurer surveys, but the order varied slightly.



With the introduction of AU programs, fraud is becoming more prevalent. Rank the top five tools that you believe best mitigate fraudulent practices. Please rank your top five, using “1” for the best tool and “5” for the fifth best tool.

Table 5-8  
TOP FIVE POTENTIAL TOOLS TO COMBAT FRAUD FOR AU PROGRAMS

Tool	Rank					Weighted Rank
	1	2	3	4	5	
	Number of Companies					
Random holdouts	3	3	0	0	1	28
Post-issue audits	2	2	1	1	0	23
Identification check (authentication/verification)	2	0	1	2	1	18
Agent monitoring	0	0	3	1	3	14
Application question wording	0	2	0	0	1	9
Other - Rx re-check / MIB Plan F	0	0	1	1	0	5
Applicant interview	0	0	0	2	0	4
Smoker propensity model	0	0	1	0	0	3
Vendor tool	0	0	0	0	1	1
Agent interview	0	0	0	0	0	0
Application review of answers	0	0	0	0	0	0
Inspection report	0	0	0	0	0	0
Manual review	0	0	0	0	0	0
Reinsurer review	0	0	0	0	0	0
<b>Total Respondents</b>	7	7	7	7	7	

All seven reinsurers responded to this question. The top five tools to combat fraud were random holdouts (weighted rank of 28), post-issue audits (23), identification check (authentication/verification) (18), agent monitoring (14), and application question wording (nine). There was a write-in, Rx re-check/MIB Plan F, which was selected and ranked sixth by two reinsurers. As is the case with all write-ins, if they had been on the original list, they may have received more votes. Note also that there are some additional tools mentioned in the comments below, but they are not in Table 5-8 above because they were not ranked.

The following comments may provide some additional insights.

- Best tools to detect fraud are Rx, EHRs, medical claims data, etc., but we are ignoring these here as they were covered in the prior question. Smoker propensity model, if effective, would be a key tool, but haven't found one yet.
- Considering pure fraud, not accidental or intentional misrep.
- The ranking can vary from program to program but these rankings apply generally.
- Vendor tools Sherlock and Formotiv.
- We believe in the protective value of behavioral science which is why we answered "application wording" as one of our top tools.

Comparing the reinsurer survey results to the direct company survey results, the top five responses were the same, but in a slightly different order. Table 5-9 below shows the results.

Table 5-9

## TOP FIVE POTENTIAL TOOLS TO COMBAT FRAUD FOR AU PROGRAMS – REINSURERS VS. DIRECT COMPANIES

Reinsurers	Weighed Rank	Direct Companies	Weighed Rank
Random holdouts	28	Identification check (authentication/verification)	53
Post-issue audits	23	Post-issue audits	45
Identification check (authentication/verification)	18	Random holdouts	44
Agent monitoring	14	Agent monitoring	37
Application question wording	9	Application question wording	35

What do you consider to be the top five drivers for the best design, implementation, and overall success of an AU program? Please rank your top five, using “1” for the best driver and “5” for the fifth best driver.

Table 5-10

## TOP FIVE DRIVERS FOR BEST DESIGN, IMPLEMENTATION, AND OVERALL SUCCESS OF AU PROGRAMS

Driver	Rank					Weighted Rank
	1	2	3	4	5	
	Number of Companies					
Monitoring the business/experience	0	2	1	3	0	17
Applicants targeted	1	1	1	0	0	12
Objectives of program are clear	2	0	0	0	0	10
Limiting misrepresentation/fraud	1	1	0	0	1	10
Distribution channel	1	1	0	0	0	9
Ability to respond to findings quickly	0	0	2	0	1	7
Data collected	0	1	0	1	0	6
Qualification percentage	1	0	0	0	0	5
Start small and expand	1	0	0	0	0	5
Back-testing	0	1	0	0	0	4
Post-issue audits	0	0	1	0	1	4
Reinsurer buy-in	0	0	1	0	1	4
Communication	0	0	1	0	0	3
Algorithm used	0	0	0	1	1	3
Customer experience	0	0	0	1	1	3
Application design	0	0	0	1	0	2
Other - Cross-discipline collaboration among stakeholders	0	0	0	0	1	1
Random holdouts	0	0	0	0	0	0
Regulatory understandings	0	0	0	0	0	0
Smoker propensity model	0	0	0	0	0	0
Training	0	0	0	0	0	0
<b>Total Respondents</b>	7	7	7	7	7	

The top five drivers for the best design, implementation and overall success of AU programs were monitoring the business/experience (weighted rank of 17), applicants targeted (12), objectives of the program are clear and limiting misrepresentation/fraud (both at 10), and distribution channel (nine). The ability to respond to findings quickly (seven) and data collected (six) came in sixth and seventh, respectively.

A few interesting observations on these results:

- The top choice of direct companies, monitoring the business/experience, did not receive a ranking of one from any of the reinsurers.
- Two choices, qualification percentage and start small and expand, received a rank of one, but were not in the top five.
- Two sales-related choices, applicants targeted and distribution channel, were in the top five.

As with the other questions, the comments will likely provide additional insights. In this set of comments, there are several common themes, e.g., all are important, monitoring the business is important, and there is overlap between the choices. Here are the specific comments:

- Difficult to choose just 5! All of the options are important and should be carefully considered when implementing an AU program.
- Many of the items above are important for the success of an AU program so it was hard to choose just 5.
- Monitoring the business experience - includes R/H and Post-Issue Audits.
- Monitoring the business/experience in our mind is inclusive of random holdouts and post-issue audits which are listed as well.
- This question was tricky to answer because we felt there was overlap in several of the answer choices depending on how you interpreted the drivers. For example, limiting misrepresentation/fraud is an obvious driver of success, but we felt that it could be controlled for by applicant targeting, distribution channel, and active monitoring.
- We assume RHOs and post-issue audits to fall under limiting fraud and misrepresentation.

In the 2019 Survey, this topic was covered as an open-ended question. Some of the responses similar to the points above included:

- Start small and expand.
- Be open to new data.
- Consider how evidence used is currently viewed by regulators.
- Be clear on program objectives.
- Communication and training are important.
- Do back-testing so there are benchmarks to compare to emerging results.
- Essential to have a random holdout process and/or post-issue audits.
- Experience monitoring should be robust and is critical so you learn quickly and can adjust as necessary.
- Monitor early duration lapse and preferred class prevalence compared to fully underwritten business.
- Track misrepresentation rates (smoking, BMI, personal/family history), misclassification and severity of declines that would have been accepted standard or better.

Comparing the reinsurer survey results to the direct company survey results, only the top and third reinsurer responses are in the direct company survey top five, but at ranks four and five. Results are shown in Table 5-11 below.

**Table 5-11**

**TOP FIVE DRIVERS FOR BEST DESIGN, IMPLEMENTATION, AND OVERALL SUCCESS OF AU PROGRAMS – REINSURERS VS. DIRECT COMPANIES**

<b>Reinsurers</b>	<b>Weighed Rank</b>	<b>Direct Companies</b>	<b>Weighed Rank</b>
<b>Monitoring the business/experience</b>	<b>17</b>	<b>Customer experience</b>	<b>45</b>
<b>Applicants targeted</b>	<b>12</b>	<b>Data collected</b>	<b>42</b>
<b>Objectives of program are clear</b>	<b>10</b>	<b>Algorithm used</b>	<b>41</b>
<b>Limiting misrepresentation/fraud</b>	<b>10</b>	<b>Monitoring the business/experience</b>	<b>40</b>
<b>Distribution channel</b>	<b>9</b>	<b>Objectives of program are clear</b>	<b>39</b>

For the final question, companies were asked to provide any additional comments. One comment was received:

AU programs are very different from company to company, so aggregating data or experience across programs and summarizing the results doesn't really tell the story.

## Section 6: Regulator Survey Results

An initial survey of three questions was sent to a group of regulators. The purpose of this survey was to get regulator opinions on AU programs and provide another perspective to the AU programs in general.

- The first question asked the regulators to provide the importance of understanding 10 specific items in evaluating a company’s mortality experience when AU is used. The answers are ranked based on the regulators’ responses:
  - High – Algorithm, Reliance on reinsurers
  - Middle – Issue age and face amount limits, Random holdouts, Consumer data, Post-issue audits
  - Low – Propensity to smoke model, Credit data, Identification (check or authentication), Vendor scoring tools
  
- The second question asked about the frequency of specific types of support for mortality assumptions in PBR that were being shown in actuarial reports. The types of support and frequencies seen by the regulators were:
  - Frequent – Reinsurer’s experience data, Actuarial study
  - Some occurrences – Industry mortality study, Retrospective demonstration using own company data
  - Seldom – Published medical or clinical data
  
- The third question asked about VM-20 mortality margins for policies issued using accelerated underwriting. Specifically, the question asked for commentary about the rigor companies put into margin determination and whether the company’s rationale for the margin is sufficient, in the regulator’s view. VM-20 Section 9C6d requires prescribed margin percentages be increased to reflect the level of uncertainty.
  - Some companies add an additional mortality margin when policies issued using accelerated underwriting are included.
  - Some companies did not add additional margin, even though the program is in early stages of its use. Responding regulators view this as *not* meeting the requirement of Section 9C6d. As uncertainty dissipates and mortality experience becomes more relevant and credible, the additional margin can be reduced if the emerging experience supports and justifies a reduction.
  - The rationale for the development of the additional mortality margin has been reviewed by responding regulators as part of the PBR Actuarial Report documentation (“PBRAR”). Responding regulators provided examples of how the PBRAR discusses the rationale behind the additional mortality margin. These examples are summarized below.
    - Describe how the company’s mortality studies recognize the accelerated policies and any policies that may have initially qualified but were ultimately fully underwritten, whether randomly or for cause.
    - Provide a narrative around how the company monitors the effectiveness of the AU program – what type of analysis is used to understand mortality slippage?
    - Clear demonstration of the fully underwritten mortality experience and the accelerated underwritten mortality experience – how did this measurement factor into determination of the additional mortality margin?

## Section 7: Acknowledgements

The authors would like to thank the Project Oversight Group for their help and guidance in putting this analysis and report together and the participating companies listed in the next section.

Project Oversight Group members:

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Cynthia MacDonald, FSA, MAAA, Sr. Director, Experience Studies

Jan Schuh, Sr. Research Administrator

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## Section 8: List of Participating Companies

### Direct Companies

Allianz Life Insurance Company of North America

American Family Life Insurance Company

Amica Life Insurance Company

Ameriprise Financial

Farm Bureau Life Insurance Company of Michigan

Farmers Insurance Group

John Hancock Life Insurance Company

Kansas City Life Insurance Company

Lincoln Financial Group

Nationwide Life Insurance Company

Northwestern Mutual Life Insurance Company

New York Life Insurance Company

OneAmerica

Penn Mutual Life Insurance Company

Principal Financial Group

Protective Life Insurance Company

Prudential Life Insurance Company of America

Sammons Financial Group

Securian Financial Group

Security Benefit Life Insurance Company

State Farm Life Insurance Company

Thrivent Financial

Transamerica

USAA Life Insurance Company

### Reinsurers

General Reinsurance Corporation

Hannover Life Re America

Munich Re Life U.S.

PartnerRe

RGA Reinsurance Company

SCOR

Swiss Re Life and Health



## Appendix A: Direct Company Survey

### ACCELERATED UNDERWRITING PRACTICES SURVEY

Accelerated Underwriting (AU) programs began in about 2011, with many companies introducing programs in 2017 and later. Beginning in 2020, many companies either modified their existing programs or introduced new programs in response to COVID-19 because paramedical, medical exams and fluid draws were difficult to perform at that time.

The Society of Actuaries Research Institute (SOA) conducted an AU Practices Survey in 2019 to learn more about these new programs. The SOA is currently conducting a second AU Practices Survey (2022) to determine how AU programs have evolved in general and in response to COVID-19.

As you go through the survey, here are a few items to keep in mind:

- We will be asking about your most prevalent AU program in 2022 and/or all of your AU programs in aggregate. By most prevalent AU program, we mean the AU program with the most product sales in 2022.
- Some questions will be asking for a differentiation by age. The age splits are 0-39 and 40+.
- For any question that asks for a dollar amount, only enter the number and not the dollar sign.
- Certain definitions will be provided throughout the survey to help achieve a common understanding. They will be shown in **BOLD BLUE CAPITALS**.
- There will be the ability to provide explanatory notes for every question.

Responses to the survey will be submitted to the SOA. Milliman has been engaged by the SOA to analyze the responses and summarize results in a report that will be made publicly available on the SOA's website. Only SOA and Milliman staff working on the survey will have access to the submitted responses. Individual company responses will be shared with Milliman so they can perform the contracted work and contact you with any questions on your responses. Additionally, Milliman may use the individual company responses to compare changes in responses from the last survey among the common participants.

Responses will not be identifiable by company name in the report. The name of your company will only be identified at the end of the report as a participant. Although a group of volunteers has been assembled to oversee the project and peer review the summary report, no identifiable company responses will be shared with them.

Persons responding to the survey will receive a copy of the final report as soon as it is completed. The report will also later be available on the SOA's website and will be published in other SOA venues. We are targeting an early 2023 release date.

The deadline to complete this survey is **Monday, November 17, 2022**.

**To help us gauge the number of study participants, please respond to [jschuh@soa.org](mailto:jschuh@soa.org) with your company's intention by Thursday October 27, 2022. If interested in participating but unable to meet the deadline, please also let us know when you will be able to provide the information.**

Thank you in advance for your participation in this survey. Please coordinate your response with others at your company, so the SOA only receives one response per company. A copy of the survey questions are found here. If multiple people need to answer different questions, it might be helpful to forward this hard copy of the survey with question assignments.

If you have any questions, please contact Ronora Stryker at [rstryker@soa.org](mailto:rstryker@soa.org) or (847) 706-3614 or Al Klein at [al.klein@milliman.com](mailto:al.klein@milliman.com) or (312) 499-5731.

Note: This survey allows participants to finish later and the browser will remember your responses. However, you must complete the survey from the same device or this will not work. If you are having challenges entering the information in the survey, please clear the browsing history as it may resolve the issue. However, if you do this, you will lose all previous entries into the survey.

**GENERAL INFORMATION ON AU PROGRAM****AU PROGRAM**

**AN “AU PROGRAM” IS A PROGRAM USED FOR LIFE INSURANCE PRODUCTS WHERE AN APPLICANT CAN HAVE CERTAIN UNDERWRITING REQUIREMENTS WAIVED, SUCH AS FORGOING INSURANCE FLUID REQUIREMENTS AND A PARAMEDICAL EXAM, IF THEY MEET CERTAIN QUALIFICATIONS, TYPICALLY DETERMINED BY AN ALGORITHM USED FOR THIS PURPOSE. THIS ALGORITHM WILL ALSO TYPICALLY DETERMINE THE RISK CLASS THE APPLICANT WILL BE OFFERED. SIMPLIFIED ISSUE AND GUARANTEED ISSUE UNDERWRITING PROGRAMS SHOULD BE EXCLUDED FROM THIS DEFINITION.**

1.a. What month and year did the most prevalent program (the AU program with the most sales in 2022) begin?

Month (MM) \_\_\_\_\_

Year (YYYY) \_\_\_\_\_

Comments: \_\_\_\_\_

1.b. Was the most prevalent AU program a modification from a previous AU program or a new program? Select only one.

Modification

New

Do not know

Comments: \_\_\_\_\_

1.c. Was the most prevalent AU program created/changed because of COVID-19? Note: details of any changes will be asked about in later questions.

Yes

No

Do not know

Comments: \_\_\_\_\_

1.d. What product types does the most prevalent AU program cover? Check all that apply.

- Term – Level premium
- Term – Other
- Equity Index Life / Indexed Universal Life
- Universal Life – with Secondary Guarantees
- Universal Life – Other
- Variable Life
- Variable Universal Life
- Whole Life – Interest Sensitive
- Whole Life – Non-participating
- Whole Life – Participating
- Other \_\_\_\_\_
- Other \_\_\_\_\_

Comments: \_\_\_\_\_

1.e. What distribution channels does the most prevalent AU program cover? Check all that apply.

- Bank / Financial Institution
- Broker-Dealer / Wire house
- Call Center
- Career / Captive
- Direct Marketing / Internet
- Independent Agent / Broker
- InsurTech distribution
- Multiple Line
- Personal Producing General Agent (PPGA)
- Other \_\_\_\_\_
- Other \_\_\_\_\_

Comments: \_\_\_\_\_

1.f. Provide the minimum and maximum issue age and face amount AU eligibility limits for your most prevalent AU program. If the Issue Age limits vary by product and/or the Face Amount limits vary by Issue Age, please explain the details in the Comments.

	Issue Age		Face Amount
Minimum	_____	Minimum	_____
Maximum	_____	Maximum	_____

Comments: \_\_\_\_\_

1.g. What was the sales volume (by policy count and face amount) of all AU programs in 2019, 2020, 2021, and what is your expectation in 2022?

	2019	2020	2021	2022 (Expected)
Policy Count				
Face Amount (in millions)				

Comments: \_\_\_\_\_

2. What year did you introduce your first AU program, even if not currently used?

Year \_\_\_\_\_

Comments: \_\_\_\_\_

**HYBRID AU**

**BY HYBRID AU, WE ARE REFERRING TO THE SAME DEFINITION AS AU PROGRAM, EXCEPT SOME OTHER TEST(S) OR INFORMATION (E.G., APS, EHR, ETC.), MAY BE REQUIRED IN THE UNDERWRITING PROCESS WHILE STILL ALLOWING THE APPLICANT TO FORGO INSURANCE FLUID REQUIREMENTS AND A PARAMEDICAL EXAM.**

3.a. Does your company have a Hybrid AU? Check all that apply.

- Yes, for the most prevalent AU program
- Yes, for other AU programs
- No, we don't have a Hybrid AU but have plans to develop one (skip to Question 4)
- No, we don't have a Hybrid AU and don't have plans to develop one (skip to Question 4)

Comments: \_\_\_\_\_

3.b. What year did you develop your first Hybrid AU?

Year

Comments: \_\_\_\_\_

3.c. Please describe the differences between your Hybrid AU and most prevalent AU program. This could include but is not limited to what additional test(s) are required, how you treat positive and negative findings, the timing of your actions, whether any limits are different from your traditional AU program, and whether your random holdout and post-issue audit percentages are different from your traditional AU program.

Comments: \_\_\_\_\_

3.d. Please describe the differences between your Hybrid AU and AU programs (other than the most prevalent AU program). This could include but is not limited to what additional test(s) are required, how you treat positive and negative findings, the timing of your actions, whether any limits are different from your traditional AU program, and whether your random holdout and post-issue audit percentages are different from your traditional AU program.

Comments: \_\_\_\_\_

**AU ELIGIBLE APPLICATIONS**

**“AU ELIGIBLE APPLICATIONS” ARE APPLICATIONS THAT ARE TAKEN ON A PRODUCT COVERED BY AN AU PROGRAM WHERE THE APPLICANT MEETS THE AGE AND AMOUNT REQUIREMENTS TO POTENTIALLY HAVE CERTAIN UNDERWRITING REQUIREMENTS WAIVED.**

4. For your most prevalent AU program, indicate the risk classes allowed for your AU eligible applicants. Check all that apply.

- Nonsmoker Best Preferred
- Nonsmoker Other Preferred
- Nonsmoker Residual Standard
- Nonsmoker Substandard
- Smoker Preferred
- Smoker Standard
- Smoker Substandard

Comments: \_\_\_\_\_

5.a. Of all of your life insurance applications (excluding simplified issue and guaranteed issue underwriting programs), what percentage were AU Eligible Applications? Complete this table by indicating the AU eligible rate/percentage for each of the years and issue age groups given. If your answer is 50% or 0.5, please enter “50”.

Issue Age	All AU Programs			
	Actual			Expected
	2019	2020	2021	2022
Lowest AU Eligible Age to 39				
40 to Highest AU Eligible Age				
All AU Eligible Ages				

Comments: \_\_\_\_\_



5.b. Of all of your AU Eligible Applications, what percentage of cases qualified to have the fluid tests and/or paramedical exams waived? Include both policies that were issued and policies that were not issued. Complete this table by indicating the waived rate/percentage for each of the years and issue age groups given. If your answer is 50% or 0.5, please enter "50".

Issue Age	All AU Programs			
	Actual			Expected
	2019	2020	2021	2022
Lowest AU Eligible Age to 39				
40 to Highest AU Eligible Age				
All AU Eligible Ages				

Comments: \_\_\_\_\_

**WITHDRAWN**

**THE APPLICANT WITHDRAWS THEIR APPLICATION EITHER PRE- OR POST- UNDERWRITING DECISION.**

5.c. Of all AU Eligible Applications and all fully underwritten applications, what percentage of cases were withdrawn? Complete this table by indicating the withdrawn rate/percentage for each of the years and issue age groups given for both all AU programs and full underwriting programs. If your answer is 10% or 0.1, please enter "10".

Issue Age	All AU Programs				Full Underwriting Programs			
	Actual			Expected	Actual			Expected
	2019	2020	2021	2022	2019	2020	2021	2022
Lowest AU Eligible Age to 39								
40 to Highest AU Eligible Age								
All AU Eligible Ages								

Comments: \_\_\_\_\_

**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.**

5.d. Of all AU Eligible Applications and all fully underwritten applications, what percentage of cases were not taken? Complete this table by indicating the not taken rate/percentage for each of the years and age groups given for both all AU programs and full underwriting programs. If your answer is 10% or 0.1, please enter "10".

Issue Age	All AU Programs				Full Underwriting Programs			
	Actual			Expected	Actual			Expected
	2019	2020	2021	2022	2019	2020	2021	2022
Lowest AU Eligible Age to 39								
40 to Highest AU Eligible Age								
All AU Eligible Ages								

Comments: \_\_\_\_\_

5.e. Of all AU Eligible Applications, what was the percentage of cases that fell into each of the categories in the table below? Complete this table by indicating the rates/percentages for 2021. If your answer is 10% or 0.1, please enter "10". The percentages should total 100%.

2021 Outcome	Decision		
	Issued	Not Taken / Withdrawn	Declined / Postponed
Neither fluids nor an underwriter were needed			
Fluids were not required, but an underwriter was needed			
Both fluids and an underwriter were needed			

Comments: \_\_\_\_\_





Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Comments: \_\_\_\_\_

**ALGORITHMS**

**ALGORITHM**

**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 FLUID TESTS AND/OR PARAMEDICAL EXAM WAIVED AND IF THEY ARE WAIVED, WHAT RISK CLASS THEY QUALIFY FOR.**

7.a. For your most prevalent AU program, what do you use? Select only one.

- \_\_\_ One algorithm for determining both whether the applicant qualifies to have their fluid tests and/or paramedical exam 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 fluid tests and/or paramedical exam waived and one to determine risk class)
- \_\_\_ More than two algorithms, please explain \_\_\_\_\_
- \_\_\_ Do not know

Comments: \_\_\_\_\_

7.b. Who developed your algorithm(s) for your most prevalent AU program? Check all that apply.

- \_\_\_ Internal Actuary
- \_\_\_ Internal Data Scientist
- \_\_\_ Internal Underwriter
- \_\_\_ Consultant(s)
- \_\_\_ Reinsurers(s)
- \_\_\_ Vendor(s)
- \_\_\_ Other \_\_\_\_\_
- \_\_\_ Other \_\_\_\_\_

Comments: \_\_\_\_\_

7.c. Complete this table by indicating all of the tools used in your most prevalent AU program algorithm(s) for determining both (i) if the fluid tests and/or paramedical exam can be waived and (ii) the risk class that would be used. Note FCRA stands for the Fair Credit Reporting Act.

Tool	Used as criteria for Waiving Fluid tests and/or paramedical exam	Used for Risk Class Determination
Application (Electronic)	<input type="checkbox"/>	<input type="checkbox"/>
Application (Paper)	<input type="checkbox"/>	<input type="checkbox"/>
Application (Tele-underwriting interview)	<input type="checkbox"/>	<input type="checkbox"/>
Credit data/credit attribute based risk score(s)	<input type="checkbox"/>	<input type="checkbox"/>
Criminal data	<input type="checkbox"/>	<input type="checkbox"/>
Electronic health record data	<input type="checkbox"/>	<input type="checkbox"/>
Financial data	<input type="checkbox"/>	<input type="checkbox"/>
Identification (authentication/verification)	<input type="checkbox"/>	<input type="checkbox"/>
Medical claims data	<input type="checkbox"/>	<input type="checkbox"/>
MIB data	<input type="checkbox"/>	<input type="checkbox"/>
MVR data	<input type="checkbox"/>	<input type="checkbox"/>
Prescription histories	<input type="checkbox"/>	<input type="checkbox"/>
Smoker propensity data	<input type="checkbox"/>	<input type="checkbox"/>
Wearable data	<input type="checkbox"/>	<input type="checkbox"/>
Other FCRA-approved data _____	<input type="checkbox"/>	<input type="checkbox"/>
Other Non-FCRA-approved data _____	<input type="checkbox"/>	<input type="checkbox"/>
Other _____	<input type="checkbox"/>	<input type="checkbox"/>
Other _____	<input type="checkbox"/>	<input type="checkbox"/>

Comments: \_\_\_\_\_

8.a. For the cases that do not qualify to have fluid tests and/or paramedical exam waived in your most prevalent AU program, do you keep track of the reason why the applicant did not qualify?

- Yes
- No (skip to Question 9)
- Do not know

Comments: \_\_\_\_\_

8.b. If so, do you provide this information to the applicant and/or agent?

- Yes
- No
- Not Applicable

Comments: \_\_\_\_\_

**UNFAIR DISCRIMINATION**

**THE TERM “UNFAIR DISCRIMINATION” WILL BE USED TO REPRESENT DISCRIMINATION AGAINST A PROTECTED CLASS THAT OCCURS FROM THE USE OF AN ALGORITHM OR DATA SELECTION, WHETHER KNOWN OR UNKNOWN.**

9. How do you check for potential Unfair Discrimination? Check all that apply.

- Testing – Internal
- Testing – Reinsurer
- Testing – Other vendor
- Other Method 1 \_\_\_\_\_
- Other Method 2 \_\_\_\_\_
- We set our algorithms and data to minimize this issue
- We do not currently check

Comments: \_\_\_\_\_



**POST-ISSUE AUDITS AND RANDOM HOLDOUTS**

**POST-ISSUE AUDIT**

**POST-ISSUE AUDITS ARE WHEN AN INSURANCE COMPANY COLLECTS ADDITIONAL INFORMATION ON THE AU 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.**

10. Do you conduct Post-Issue Audits?

Yes

No (skip to Question 12.b.)

Comments: \_\_\_\_\_

11.a. 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 cases that are misclassified	
To be able to determine the magnitude of the cases that are misclassified	
To be able to determine cases that may have misrepresentation (or fraud)	
To determine if the applicant smokes	
To determine the weaknesses in our AU process	
To be able to quickly catch errors and make changes	
To validate our assumptions	
Other companies do it	
Other _____	

Comments: \_\_\_\_\_

11.b. What tools do you use to conduct your Post-Issue Audits? Check all that apply.

Tool	Check all tools used
APS	
Consulting company	
Consumer data (non-credit)	
Credit data/credit attribute based risk score(s)	
Identification (authentication/verification)	
Inspection report	
MVR	
Prescription histories	
Recheck tool(s)	
Telephonic follow-up with insured	
Other _____	
Other _____	

Comments: \_\_\_\_\_

12.a. If a Post-Issue Audit finds that the case should have been declined, what do you do? Select only one.

- Rescind it in all circumstances
- Rescind it in some circumstances
- Never rescind it
- Do not know

Comments: \_\_\_\_\_

12.b. Indicate the reasons you will rescind a policy which has been issued under your AU programs (check all that apply):

- Material nondisclosure
- Material misrepresentation
- Rescind for other reasons \_\_\_\_\_

Comments: \_\_\_\_\_

13. How does misrepresentation and fraud on all AU programs compare to that on your full underwriting programs in 2019, 2020 and 2021, and what is your expectation in 2022?

a. In 2019, all AU programs had:

	Less	Same	More	Do Not Know
Material nondisclosure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Material misrepresentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fraud	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b. In 2020, all AU programs had:

	Less	Same	More	Do Not Know
Material nondisclosure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Material misrepresentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fraud	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c. In 2021, all AU programs had:

	Less	Same	More	Do Not Know
Material nondisclosure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Material misrepresentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fraud	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d. In 2022, all AU programs are expected to be:

	Less	Same	More	Do Not Know
Material nondisclosure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Material misrepresentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fraud	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: \_\_\_\_\_

## RANDOM HOLDOUT

**RANDOM HOLDOUTS ARE WHEN AN AU APPLICANT WHO HAS QUALIFIED TO HAVE THEIR REQUIREMENTS WAIVED, IS PUT THROUGH FULL UNDERWRITING. THIS IS TYPICALLY DONE RANDOMLY, E.G., EVERY 10<sup>TH</sup> CASE, EVERY 25<sup>TH</sup> CASE, ETC.**

14. For your all AU programs, provide your target and actual Random Holdout and Post-Issue Audit percentages of AU Eligible Applications. Please respond based on experience from 1/1/2019 to 12/31/2021 and expected for full year 2022. If your answer is 10% or 0.1, please enter "10".

### Percentage of AU Eligible Applications

Test	2019		2020		2021		2022	
	Target	Actual	Target	Actual	Target	Actual	Target	Expected
Random Holdouts								
Post-issue audits								

Comments: \_\_\_\_\_

15. For the actual cases identified in 14, please provide further details on the results of the Random Holdouts and Post-Issue Audits for all AU programs. We are looking for percentages of various categories of both positive and negative findings. Please provide the percentage for each of years 2019, 2020, and 2021, and expected for 2022. If your answer is 10% or 0.1, please enter "10". For each row, the percentages should add up to 100%.

#### a. 2019

2019	Positive Findings		Negative Findings			
	Better Risk Class	As Expected	Worse by up to two Risk Classes or two Table Ratings	Worse by more than two Risk Classes (excluding Smoker Misrepresentation) or more than two Table Ratings	Smoker Misrepresentation	Decline/ Postpone
Test						
Random Holdouts						
Completed Post-issue audits						

Comments: \_\_\_\_\_

b. 2020

2020	Positive Findings		Negative Findings			
	Better Risk Class	As Expected	Worse by up to two Risk Classes or two Table Ratings	Worse by more than two Risk Classes (excluding Smoker Misrepresentation) or more than two Table Ratings	Smoker Misrepresentation	Decline/ Postpone
Test						
Random Holdouts						
Completed Post-issue audits						

Comments: \_\_\_\_\_

c. 2021

2021	Positive Findings		Negative Findings			
	Better Risk Class	As Expected	Worse by up to two Risk Classes or two Table Ratings	Worse by more than two Risk Classes (excluding Smoker Misrepresentation) or more than two Table Ratings	Smoker Misrepresentation	Decline/ Postpone
Test						
Random Holdouts						
Completed Post-issue audits						

Comments: \_\_\_\_\_

d. 2022 (Expected)

2022	Positive Findings		Negative Findings			
	Better Risk Class	As Expected	Worse by up to two Risk Classes or two Table Ratings	Worse by more than two Risk Classes (excluding Smoker Misrepresentation) or more than two Table Ratings	Smoker Misrepresentation	Decline/ Postpone
Test						
Random Holdouts						
Completed Post-issue audits						

Comments: \_\_\_\_\_

**MORTALITY AND LAPSE**

16. Indicate the ratio of A to B for what you expect in 2022, where:

A = Mortality of all the AU eligible policies from your most prevalent AU program that have the fluid test and/or paramedical exam waived.

B = Mortality of all fully underwritten business (including random holdouts).

If you do not know the answer, select "Do not know".

Percentage	Lowest AU Eligible Issue Age to 39	40 to Highest AU Issue Eligible Age	All AU Eligible Issue Ages
< 90%			
90-95%			
96-99%			
100%			
101-105%			
106-110%			
111-115%			
116-120%			
121-125%			
>125%			
Do not know			

Comments: \_\_\_\_\_

17.a. For all AU programs, please provide the percentage of contestable and non-contestable claims incurred by year. We will summarize these results in ranges, once we analyze the responses. If your answer is 10% or 0.1, please enter "10". The six answers for each year should add up to 100%.

Type of Claim	2019			2020			2021		
	Paid	Pending	Denied	Paid	Pending	Denied	Paid	Pending	Denied
Contestable									
Non-contestable									

Comments: \_\_\_\_\_

17.b. For all full underwriting programs, please provide the percentage of contestable and non-contestable claims incurred by year. We will summarize these results in ranges, once we analyze the responses. If your answer is 10% or 0.1, please enter "10". The six answers for each year should add up to 100%.

Type of Claim	2019			2020			2021		
	Paid	Pending	Denied	Paid	Pending	Denied	Paid	Pending	Denied
Contestable									
Non-contestable									

Comments: \_\_\_\_\_



18.a. For the best preferred and standard nonsmoker risk classes, on your most prevalent AU program, what is your lapse assumption on the policies that have the fluid tests and/or paramedical exam waived, and what is your lapse assumption on the policies that go through full underwriting (including random holdouts) in 2022? Please enter the lapse assumption for the first two durations. If your answer is 10% or 0.1, please enter "10".

If there are less than 5% of the policies in the best preferred nonsmoker risk class, then please combine the top two best preferred nonsmoker risk classes for this question (and indicate that you have done this in the Comments section).

Risk Class	Most Prevalent AU Program		Full Underwriting Program	
	Duration 1	Duration 2	Duration 1	Duration 2
Best Preferred NS				
Standard NS				

Comments: \_\_\_\_\_:

18.b. For your most prevalent AU program, how does your lapse experience differ from what you expected and to the experience on policies that were fully underwritten (including random holdouts) over the same period by calendar year? If your experience for policies that qualified to have fluid tests and/or paramedical exam waived was 7% and you expected the lapse rate to be 8%, express your response as "-1" (= 7% - 8%). If your experience for policies that qualified to have fluid tests and/or paramedical exam waived was 7% and your fully underwritten experience was 4%, express your response as "3" (= 7% - 4%).

Comparison	2019		2020		2021	
	Duration 1	Duration 2	Duration 1	Duration 2	Duration 1	Duration 2
Comparison to expected						
Comparison to fully underwritten						

Comments: \_\_\_\_\_

18.c. Have you noticed a difference in post-level premium term lapse rates since the introduction of your AU programs? Select only one.

- Yes, post-level premium term lapse rates are higher
- Yes, post-level premium term lapse rates are lower
- No, post-level premium term lapse rates are about the same
- Do not know

Comments: \_\_\_\_\_

19.a. Have your applicant demographics/distribution changed since the introduction of your AU programs?

- Yes
- No
- Do not know

Comments: \_\_\_\_\_

19.b. How did the demographics/distribution of your applicants change since the introduction of your AU programs? Check all that apply.

- Age
- Face amount for coverage applied for
- Health conditions
- State of issue/residence or geographic region
- Other \_\_\_\_\_
- Other \_\_\_\_\_

Comments: \_\_\_\_\_

20. What percentage (by amount) of your new business is reinsured? Please answer for both all AU programs and all full underwriting programs. If your answer is 10% or 0.1, please enter "10".

New Business	2019	2020	2021
All AU Programs			
All full underwriting programs			

Comments: \_\_\_\_\_

21. Do you track your AU program(s) changes in your experience studies?

Yes

No

Do Not Know

Comments: \_\_\_\_\_

**GENERAL QUESTIONS**

22. What were your five biggest challenges in designing/developing all AU programs? You can answer this question any way you want (e.g., by level of difficulty, by time, etc.). Please rank your top five, using “1” for the biggest challenge and “5” for the fifth biggest challenge.

Challenges	Rank (1-5)
Algorithm creation/development	
Assumption setting	
Buy-in from Actuaries	
Buy-in from Management	
Buy-in from Marketing/Distribution	
Buy-in from Underwriters	
Buy-in from Other internal stakeholders	
Buy-in from Reinsurers	
Communication	
Data – determining what to use	
Data sources – new or emerging	
IT/Systems to implement program	
IT/Systems to manage/monitor program	
Lapse assumptions	
Liars/clean-sheeters (other than smoker liars)	
Limiting misclassification	
Limiting misrepresentation/fraud	
Mortality assumptions	
Post-issue audits	
Preferred criteria updates	
Program design	
Random holdout percentage	
Rescissions from post-issue audit findings	
Regulatory understanding	
Smokers who lie about smoking	
Training	
Vendors – determining which to use	
Other _____	
Other _____	

Comments: \_\_\_\_\_

23. Rank the top five sources of data that you believe provide the best assessment of mortality in an AU program. Please rank your top five, using "1" for the best data source and "5" for the fifth best data source.

Data Sources	Rank (1-5)
Application data	
Credit data/credit attribute based risk score(s)	
Criminal data	
Electronic health record data	
Financial data	
Medical claims data	
MIB data	
MVR data	
Prescription history data	
Smoker propensity data	
Wearable data	
Other FCRA-approved data _____	
Other Non-FCRA-approved data _____	
Other _____	
Other _____	

Comments: \_\_\_\_\_

24. With the introduction of AU programs, fraud is becoming more prevalent. Rank the top five tools that you believe best mitigate fraudulent practices. Please rank your top five, using "1" for the best tool and "5" for the fifth best tool.

Potential Tools to Combat Fraud	Rank (1-5)
Agent monitoring	
Agent interview	
Applicant interview	
Application review of answers	
Application question wording	
Identification check (authentication/verification)	
Inspection report	
Manual review	
Post-issue audits	
Random holdouts	
Reinsurer review	
Smoker propensity model	
Vendor tool	
Other _____	
Other _____	

Comments: \_\_\_\_\_

25. What do you consider to be the top five drivers for the best design, implementation, and overall success of an AU program? Please rank your top five, using "1" for the best driver and "5" for the fifth best driver.

Drivers of Success	Rank (1-5)
Ability to respond to findings quickly	
Algorithm used	
Applicants targeted	
Application design	
Back-testing	
Communication	
Customer experience	
Data collected	
Distribution channel	
Limiting misrepresentation/fraud	
Monitoring the business/experience	
Objectives of program are clear	
Post-issue audits	
Qualification percentage	
Random holdouts	
Regulatory understandings	
Reinsurer buy-in	
Smoker propensity model	
Start small and expand	
Training	
Other _____	
Other _____	

Comments:

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Additional Comments on any part of the survey: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Contact Information:

Name \_\_\_\_\_

Company \_\_\_\_\_

Email \_\_\_\_\_

Phone \_\_\_\_\_



## Appendix B: Reinsurer Survey

Note that question 2a was revised subsequent to the survey being distributed. The revised question 2a is shown below instead of the original question.

### ACCELERATED UNDERWRITING REINSURER SURVEY

Accelerated Underwriting (AU) programs began in about 2011, with many companies introducing programs in 2017 and later. Beginning in 2020, many companies either modified their existing programs or introduced new programs in response to COVID-19 because paramedical, medical exams and fluid draws were difficult to perform at that time.

The Society of Actuaries Research Institute (SOA) conducted an AU Reinsurer Survey in 2019 to learn more about AU programs and reinsurers' involvements in these programs. The SOA is currently conducting a second AU Reinsurer Survey (2022) to determine how AU programs have evolved in general and in response to COVID-19.

As you go through the survey, here are a few items to keep in mind:

- The definition of AU Program is provided at the beginning of the survey to help achieve a common understanding. It is shown in **BOLD BLUE CAPITALS**.
- There will be the ability to provide explanatory notes for every question.

Responses to the survey will be submitted to the SOA. Milliman has been engaged by the SOA to analyze the responses and summarize results in a report that will be made publicly available on the SOA's website. Only SOA and Milliman staff working on the survey will have access to the submitted responses. Individual company responses will be shared with Milliman so they can perform the contracted work and contact you with any questions on your responses. Additionally, Milliman may use the individual company responses to compare changes in responses from the last survey among the common participants.

Responses will not be identifiable by company name in the report. The name of your company will only be identified at the end of the report as a participant. Although a group of volunteers has been assembled to oversee the project and peer review the summary report, no identifiable company responses will be shared with them.

Persons responding to the survey will receive a copy of the final report as soon as it is completed. The report will also later be available on the SOA's website and will be published in other SOA venues. We are targeting an early 2023 release date.

The deadline to complete this survey is **Thursday, November 17, 2022**.

To help us gauge the number of study participants, please respond to [jschuh@soa.org](mailto:jschuh@soa.org) with your company's intention by **Thursday, November 3, 2022**. If interested in participating but unable to meet the deadline, please also let us know when you will be able to provide the information.

Thank you in advance for your participation in this survey. Please coordinate your response with others at your company, so the SOA only receives one response per company. A copy of the survey questions are found here. If multiple people need to answer different questions, it might be helpful to forward this hard copy of the survey with question assignments.

If you have any questions, please contact Ronora Stryker at [rstryker@soa.org](mailto:rstryker@soa.org) or (847) 706-3614 or Al Klein at [al.klein@milliman.com](mailto:al.klein@milliman.com) or (312) 499-5731.

Note: This survey allows participants to finish later and the browser will remember your responses. However, you must complete the survey from the same device or this will not work. If you are having challenges entering the information in the survey, please clear the browsing history as it may resolve the issue. However, if you do this, you will lose all previous entries into the survey.

## AU PROGRAM

**AN “AU PROGRAM” IS A PROGRAM USED FOR LIFE INSURANCE PRODUCTS WHERE AN APPLICANT CAN HAVE CERTAIN UNDERWRITING REQUIREMENTS WAIVED, SUCH AS FORGOING INSURANCE FLUID REQUIREMENTS AND A PARAMEDICAL EXAM, IF THEY MEET CERTAIN QUALIFICATIONS, TYPICALLY DETERMINED BY AN ALGORITHM USED FOR THIS PURPOSE. THIS ALGORITHM WILL ALSO TYPICALLY DETERMINE THE RISK CLASS THE APPLICANT WILL BE OFFERED. SIMPLIFIED ISSUE AND GUARANTEED ISSUE UNDERWRITING PROGRAMS SHOULD BE EXCLUDED FROM THIS DEFINITION.**

1.a. What percentage of new life insurance business ceded to you was issued under an AU program and had the insurance fluid requirements and a paramedical exam waived? Answer by policy count and face amount for each of the following years. If your answer is 20% or 0.2, please enter “20”.

Year	Policy Count	Face Amount
2019 (Actual)		
2020 (Actual)		
2021 (Actual)		
2022 (Expected)		

Comments:

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1.b. What proportion of the growth in AU programs in 2020 and 2021 do you think was in response to COVID-19?

- None  
 A little  
 About half  
 Most  
 All  
 Do not know

Comments:

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2. Understanding the potential excess mortality and lapses experienced by carriers using AU programs is a difficult task because many of the AU programs are new. We would like to better understand these excess levels under AU programs as compared to similar programs with full underwriting. Answer by policy count and face amount for each of the following years.

Question 2a, on excess mortality has been revised to make it easier to respond to and to provide more meaningful and informative answers. In this question, we will be asking for your expected excess mortality (i.e., mortality slippage) on the AU programs you reinsure.

Indicate the range of excess mortality in which your clients with the lowest and highest level of excess mortality fall. For each of these clients, we are asking for how the expectations vary by year and by age group. Note that the clients with the lowest and highest excess mortality can vary for each of the categories below. There should be one X in each column.

Answer the question based on your assumed level premium term business only.

Note also that negative excess mortality shown below means that policies issued under an AU program are expected to have better (lower) mortality than the policies issued under similar programs with full underwriting.

**2019**

Excess Mortality (Slippage)	Expected Excess Mortality (Slippage) by					
	Low Client (least slippage)			High Client (most slippage)		
	Lowest AU Eligible Issue Age to 39	40 to Highest AU Eligible Issue Age	All AU Eligible Issue Ages	Lowest AU Eligible Issue Age to 39	40 to Highest AU Eligible Issue Age	All AU Eligible Issue Ages
> 20%						
16% to 20%						
11% to 15%						
6% to 10%						
1% to 5%						
0%						
-1% to -5%						
-6% to -10%						
< -10%						

**2020**

Excess Mortality (Slippage)	Expected Excess Mortality (Slippage) by					
	Low Client (least slippage)			High Client (most slippage)		
	Lowest AU Eligible Issue Age to 39	40 to Highest AU Eligible Issue Age	All AU Eligible Issue Ages	Lowest AU Eligible Issue Age to 39	40 to Highest AU Eligible Issue Age	All AU Eligible Issue Ages
> 20%						
16% to 20%						
11% to 15%						
6% to 10%						
1% to 5%						
0%						
-1% to -5%						
-6% to -10%						
< -10%						

**2021**

Excess Mortality (Slippage)	Expected Excess Mortality (Slippage) by					
	Low Client (least slippage)			High Client (most slippage)		
	Lowest AU Eligible Issue Age to 39	40 to Highest AU Eligible Issue Age	All AU Eligible Issue Ages	Lowest AU Eligible Issue Age to 39	40 to Highest AU Eligible Issue Age	All AU Eligible Issue Ages
> 20%						
16% to 20%						
11% to 15%						
6% to 10%						
1% to 5%						
0%						
-1% to -5%						
-6% to -10%						
< -10%						

**2022**

Excess Mortality (Slippage)	Expected Excess Mortality (Slippage) by					
	Low Client (least slippage)			High Client (most slippage)		
	Lowest AU Eligible Issue Age to 39	40 to Highest AU Eligible Issue Age	All AU Eligible Issue Ages	Lowest AU Eligible Issue Age to 39	40 to Highest AU Eligible Issue Age	All AU Eligible Issue Ages
> 20%						
16% to 20%						
11% to 15%						
6% to 10%						
1% to 5%						
0%						
-1% to -5%						
-6% to -10%						
< -10%						

2b. Excess Lapse

Provide the results of (A - B), where:

A = Lapse rate of all AU eligible policies issued under an AU program and had the insurance fluid requirements and a paramedical exam waived

B = Lapse rate of all fully underwritten policies issued in the same era as A, including random holdouts

If A has a lapse rate of 7%, and B has a lapse rate of 5%, express your response as "2" (= 7% - 5%).

Year	Excess Lapse by			
	Policy Count		Face Amount	
	Duration 1	Duration 2	Duration 1	Duration 2
2019 (Actual)				
2020 (Actual)				
2021 (Actual)				
2022 (Expected)				

Comments:

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3. Do you plan to update your underwriting manual in the near future for AU programs? Check all that apply.

- We have recently updated our underwriting manual for AU.
- We have not updated our underwriting manual for AU.
- We have no current plans to update our manual for AU.
- We do not believe it is necessary to update our underwriting manual for AU.
- We plan to update our underwriting manual for AU in the next year.
- We plan to update our underwriting manual for AU in the next 2-3 years.
- We plan to update our underwriting manual for AU beyond 2-3 years from now.
- We are not sure at this time.
- We do not have an underwriting manual.
- Other \_\_\_\_\_

Comments:

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4. Rank the top five sources of data that you believe provide the best assessment of mortality in an AU program. Please rank your top five, using “1” for the best data source and “5” for the fifth best data source.

Data Sources	Rank (1-5)
Application data	
Credit data/credit attribute based risk score(s)	
Criminal data	
Electronic health record data	
Financial data	
Medical claims data	
MIB data	
MVR data	
Prescription history data	
Smoker propensity data	
Wearable data	
Other FCRA-approved data _____	
Other Non-FCRA-approved data _____	
Other _____	
Other _____	

Comments:

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5. With the introduction of AU programs, fraud is becoming more prevalent. Rank the top five tools that you believe best mitigate fraudulent practices. Please rank your top five, using "1" for the best tool and "5" for the fifth best tool.

Potential Tools to Combat Fraud	Rank (1-5)
Agent monitoring	
Agent interview	
Applicant interview	
Application review of answers	
Application question wording	
Identification check (authentication/verification)	
Inspection report	
Manual review	
Post-issue audits	
Random holdouts	
Reinsurer review	
Smoker propensity model	
Vendor tool	
Other _____	
Other _____	

Comments:

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6. What do you consider to be the top five drivers for the best design, implementation, and overall success of an AU program? Please rank your top five, using “1” for the best driver and “5” for the fifth best driver.

Drivers of Success	Rank (1-5)
Ability to respond to findings quickly	
Algorithm used	
Applicants targeted	
Application design	
Back-testing	
Communication	
Customer experience	
Data collected	
Distribution channel	
Limiting misrepresentation/fraud	
Monitoring the business/experience	
Objectives of program are clear	
Post-issue audits	
Qualification percentage	
Random holdouts	
Regulatory understandings	
Reinsurer buy-in	
Smoker propensity model	
Start small and expand	
Training	
Other _____	
Other _____	

Comments:

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Additional Comments on any part of the survey: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Contact Information:

Name \_\_\_\_\_

Company \_\_\_\_\_

Email \_\_\_\_\_

Phone \_\_\_\_\_

## Appendix C: Regulator Survey

The Society of Actuaries (SOA) is again conducting a survey around Accelerated Underwriting in life insurance (AU). The SOA is seeking regulator input as a precursor to help inform the survey design. Additional lines are provided for any comments you may have around your response. Thank you.

### Definition of AU PROGRAM

An “AU PROGRAM” is a program used for life insurance products where an applicant can have certain underwriting requirements waived, such as foregoing a paramedical exam and/or fluid requirements, if they meet certain qualifications, typically determined by an algorithm used for this purpose. This algorithm will also typically determine the risk class the applicant will be offered. Simplified issue and guaranteed issue underwriting programs should be excluded from this definition.

1. Of the following topics, numerically rank the five topics for which you think it would be most important to understand (the concepts and how companies are using them) in evaluating a company’s mortality experience under its AU program (column A) and in evaluating the possibility for unfair discrimination (column B).

Topic	Rank 1 (highest priority) to 5 (lowest priority)	
	A. Evaluating mortality experience under AU program	B. Evaluating the possibility for unfair discrimination
Algorithm (e.g. data sources and how used)		
Consumer data		
Credit data		
Identification (check or authentication)		
Issue age and face amount limits for AU eligibility		
Post-issue audits		
Propensity to smoke model		
Random holdouts		
Reliance on Reinsurers		
Vendor scoring tools		

Comment: \_\_\_\_\_

2. During the Principle-based valuation review process, which of the following items do you find companies using as support for the company mortality assumption *for policies issued using AU*.

Mortality Support	Prevalence (Mark as 'Seldom' or 'Frequent')
Reinsurer's experience data	
Published medical or clinical study	
Actuarial study	
Industry mortality study	
Retrospective demonstration using own company data	
Other (please describe)	

Comment: \_\_\_\_\_

3. Please comment on your view of the sufficiency of mortality margins and the sufficiency of the rationale as documented in VM-31 reports for development of said margins, as used by companies when policies are issued using AUW.

Sufficiency of Margin	Rationale for Development of Margin

Comment: \_\_\_\_\_

## About The Society of Actuaries Research Institute

Serving as the research arm of the Society of Actuaries (SOA), the SOA Research Institute provides objective, data-driven research bringing together tried and true practices and future-focused approaches to address societal challenges and your business needs. The Institute provides trusted knowledge, extensive experience and new technologies to help effectively identify, predict and manage risks.

Representing the thousands of actuaries who help conduct critical research, the SOA Research Institute provides clarity and solutions on risks and societal challenges. The Institute connects actuaries, academics, employers, the insurance industry, regulators, research partners, foundations and research institutions, sponsors and non-governmental organizations, building an effective network which provides support, knowledge and expertise regarding the management of risk to benefit the industry and the public.

Managed by experienced actuaries and research experts from a broad range of industries, the SOA Research Institute creates, funds, develops and distributes research to elevate actuaries as leaders in measuring and managing risk. These efforts include studies, essay collections, webcasts, research papers, survey reports, and original research on topics impacting society.

Harnessing its peer-reviewed research, leading-edge technologies, new data tools and innovative practices, the Institute seeks to understand the underlying causes of risk and the possible outcomes. The Institute develops objective research spanning a variety of topics with its [strategic research programs](#): aging and retirement; actuarial innovation and technology; mortality and longevity; diversity, equity and inclusion; health care cost trends; and catastrophe and climate risk. The Institute has a large volume of [topical research available](#), including an expanding collection of international and market-specific research, experience studies, models and timely research.

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