33 - Accelerated Underwriting Research

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SOA Presentation Disclaimer

SOA Accelerated Underwriting Practices Survey

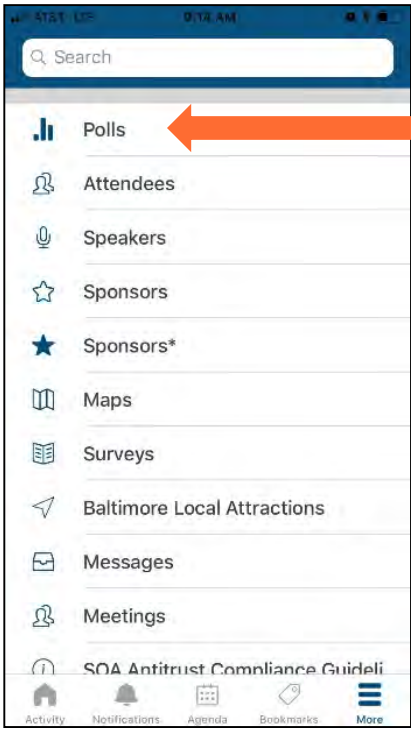Valuation Actuary Symposium – Session 33
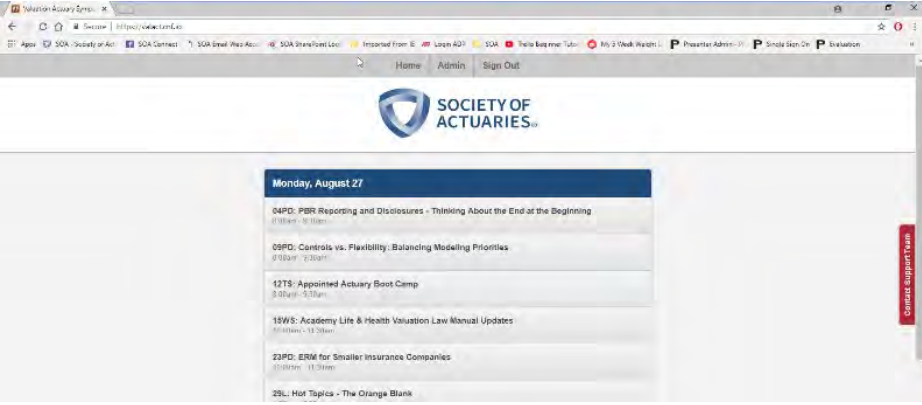
Al Klein and Karen Rudolph

26 AUGUST 2019

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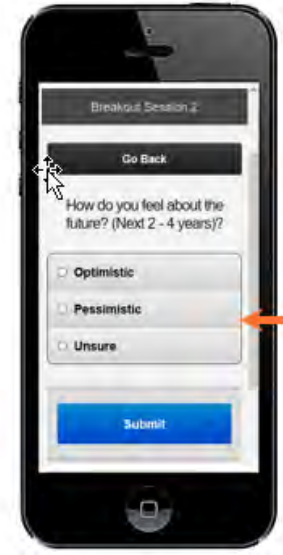Type **valact.cnf.io** In Your Browser

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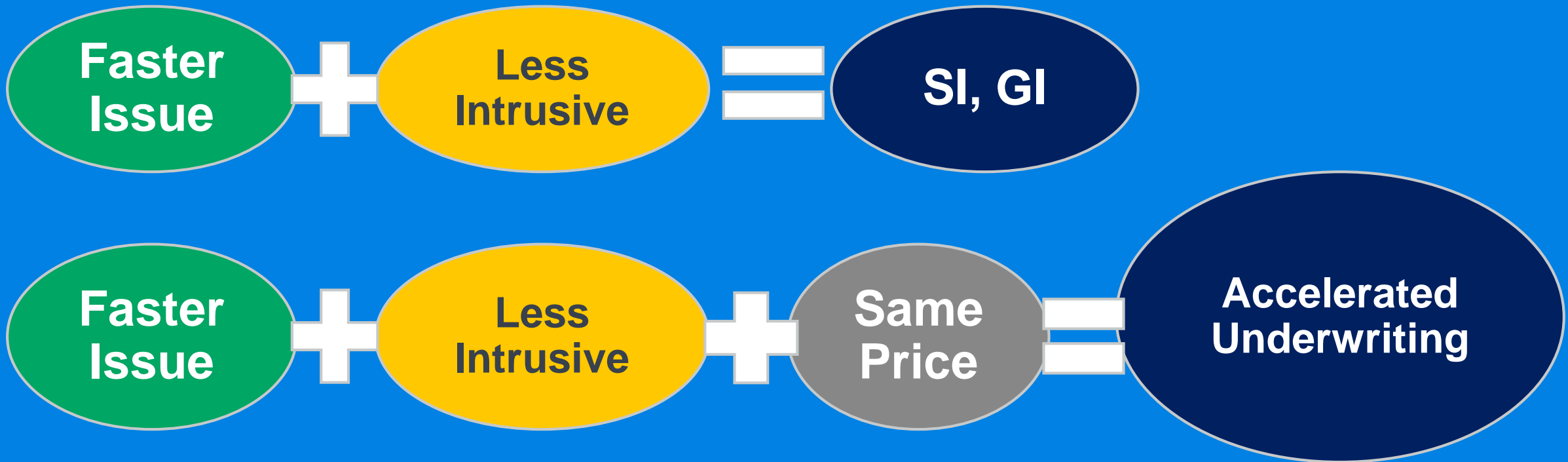
Introduction

Overview

- Milliman was hired to conduct an Accelerated Underwriting survey for the SOA

- Independent surveys were sent to direct companies and reinsurers

- 28 companies with AU programs responded to the direct company survey and 5 reinsurers responded to the reinsurer survey

- Several others without programs responded to direct company survey to answer our questions regarding future plans

- Asked 19 questions on practices, but some questions had multiple parts

- Most answers were based on information/data between 1/1/2017 to 9/30/2018

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Agenda

1   **Direct Company Survey – Practices (Al)**

2   **Direct Company Survey – PBR (Karen)**

3   **Reinsurer Survey – Opinions (Al)**

4   **Reinsurer Survey – PBR (Karen)**

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Direct Company Practices

AI

Accelerated Underwriting

"Any fully underwritten life insurance program that allows some applicants to forgo having a medical or paramedical exam and providing fluids, if they meet certain requirements and/or meet a certain pre-determined threshold."

Poll – What year did your company begin its first AU program?

Before 2014
2014-2015
2016
2017
2018
2019
I work for a direct company and we do not have an AU program
I work for a direct company, but do not know
I do not work for a direct company

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Poll: What year did your company begin its first AU program?
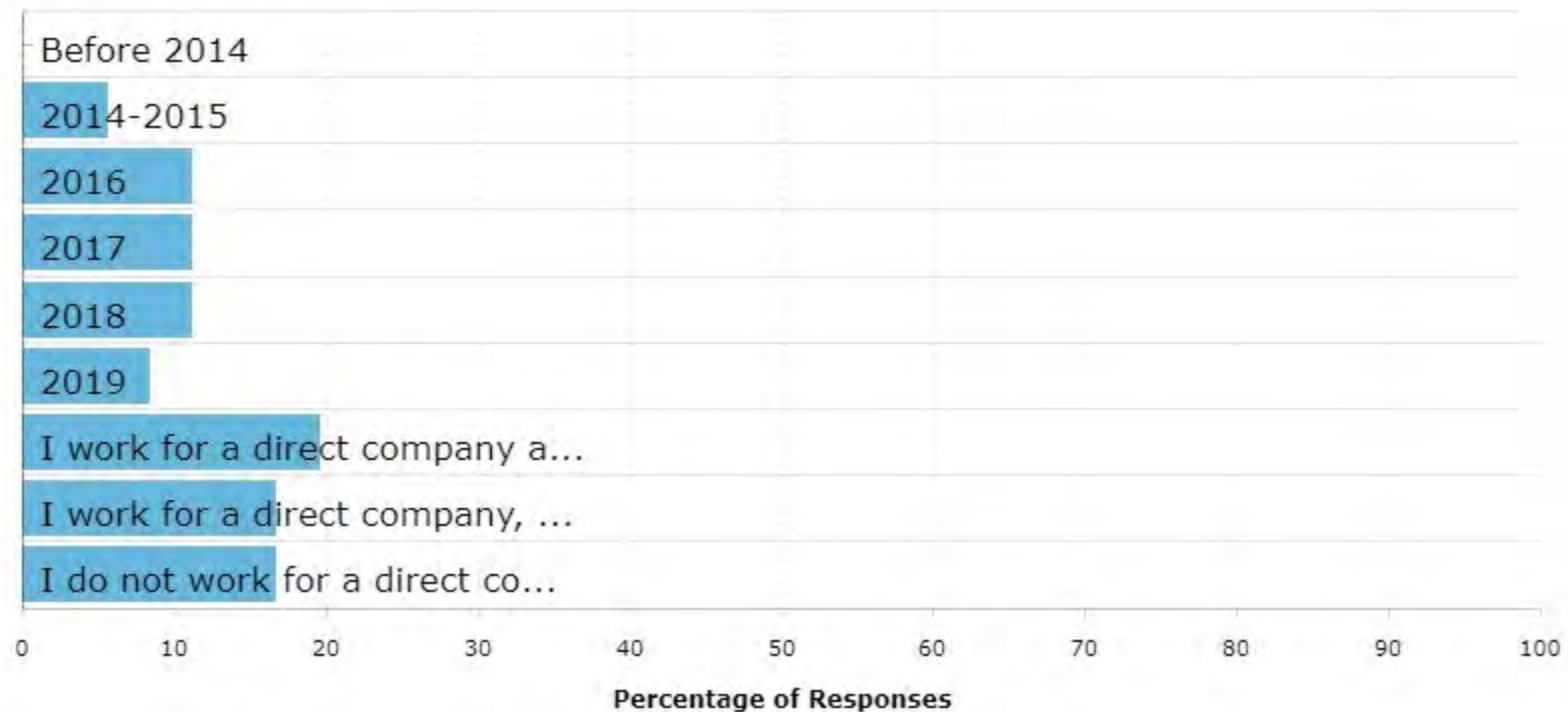
When AU programs began

28 companies responded

YEAR PROGRAM BEGAN	NUMBER OF COMPANIES	STILL IN TEST MODE
2011	1	
2014	2	
2015	1	
2016	4	
2017	10	3
2018	10	2

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Products that have AU programs

28 companies responded with between 1 (13 co.) and 6 (1 co.) products

AU PRODUCTS	
PRODUCT	**NUMBER OF COMPANIES**
Term	23
Equity Index Life	11
Other UL (Other than ULSG)	10
Whole Life (Par/Nonpar)	9
UL with Secondary Guarantee	8
Variable UL	6
Interest Sensitive Whole Life	1

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Limitations

Age, Amount, Risk Class

AU Age and Amount Limits

Age Limits – 28 companies responded

MINIMUM AGE	
MEASURE	**AGE**
Low	18 (22 co.)
Average	19.7
High	50
Most common	18 (22 co.)

MAXIMUM AGE	
MEASURE	**AGE**
Low	39 (3 co.)
Average	55.4
High	85
Most common	60 (9 co.)

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AU Age and Amount Limits

Face Amount Limits – 28 companies responded

MINIMUM FACE AMOUNT	
MEASURE	FACE AMOUNT
Low	$0 (11 co.)
Average	$52,500
High	$150,000
Most common	$100,000 (12 co.)

MAXIMUM FACE AMOUNT	
MEASURE	FACE AMOUNT
Low	$300,000 (2 co.)
Average	826,800
High	$2,500,000
Most common	$1,000,000 (12 co.)

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Risk Class Limitations

28 companies responded

RISK CLASS LIMITATIONS	NONSMOKER	SMOKER
Available for all risk classes (i.e., no restrictions)	21	18
Available for a limited number of risk classes	7	1
Not available for any risk classes	0	9

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AU Eligible Applications

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

Percentage of all applications that are AU eligible

27 companies responded

AU ELIGIBLE APPLICATIONS	
PERCENTAGE OF ALL APPLICATIONS	**NUMBER OF COMPANIES**
1%-25%	10
26%-40%	6
41%-60%	8
61%-75%	1
76%-100%	2

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Algorithm

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

Number of algorithms used in AU process

28 companies responded

AU ELIGIBLE APPLICATIONS	
NUMBER OF ALGORITHMS	NUMBER OF COMPANIES
1	14
2	13
> 2	1

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Who created the algorithm?

28 responded with between 1 (3 co.) and 5 (2 co.) resources, most common 3 and 4 (8 co.)

WHO CREATED THE ALGORITHM?	
RESOURCE	NUMBER OF COMPANIES
Internal underwriting	24
Internal actuary	23
Reinsurer	16
Internal data scientist	12
Vendor	7
Consultant	5

Underwriting tools used in AU program algorithms

28 companies responded, but waive requirements (26) and determine risk class (24) had less respondents

TOP 10 UNDERWRITING TOOLS	WAIVE REQUIREMENTS	DETERMINE RISK CLASS
Prescription histories	24	23
MIB	24	20
MVR	22	24
Electronic application	21	20
Tele-underwriting interview	19	20
Credit data	18	9
ID authentication	11	4
Consumer data	10	5
Paper application	9	10
ID verification	9	3
Other tools: Propensity to smoke model (1/0) and write-ins Public Record (2/1), Prior underwriting decisions (1/1), Vendor model risk factors (1/1)Other insurance coverage (1/0), Previous internal applications (1/0), Proprietary matrix (0/1)		

Assumptions vs. Experience

Waiver by age, Waived vs. Non-waived, Mortality, Lapse, Expenses

Waiving of underwriting requirements on AU eligible apps

28 companies responded, but 14 provided either only one age group or an entry only for all ages

% AU ELIGIBLE EXPECTED TO WAIVE			
Measure	**IA ≤ 50**	**IA > 50**	**ALL AGES**
Average	41.5%	41.8%	46.0%
# Responses	24	14	27
Most common	40% (3 co.)	10%, 15% & 50% (2 co.)	40% & 50% (3 co.)

% AU ELIGIBLE ACTUALLY WAIVED			
Range	**IA ≤ 50**	**IA > 50**	**ALL AGES**
1%-25%	7	5	9
26%-50%	11	5	8
51%-75%	5	2	6
76%-100%	2	2	4
Average	39.7%	37.9%	43.5%

- For all ages, 14 indicated actual was lower than expected, 8 indicated higher, 5 the same (+/- 1%)

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Assumptions for waived vs. not waived policies

27 companies responded for best NS class, 26 for all risk classes

PRICING ASSUMPTIONS FOR POLICIES WHEN UNDERWRITING REQUIREMENTS WAIVED VS. WHEN UNDERWRITING REQUIREMENTS NOT WAIVED		
ASSUMPTION: WAIVED WAS	**BEST PREFERRED NONSMOKER CLASS**	**ALL RISK CLASSES**
> 10% Lower	0	0
1%-10% Lower	1	2
The Same	6	6
1%-10% Higher	13	13
> 10% Higher	7	4
Don't Know	0	1

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Poll – How does your mortality experience compare to assumptions?

> 10% Lower

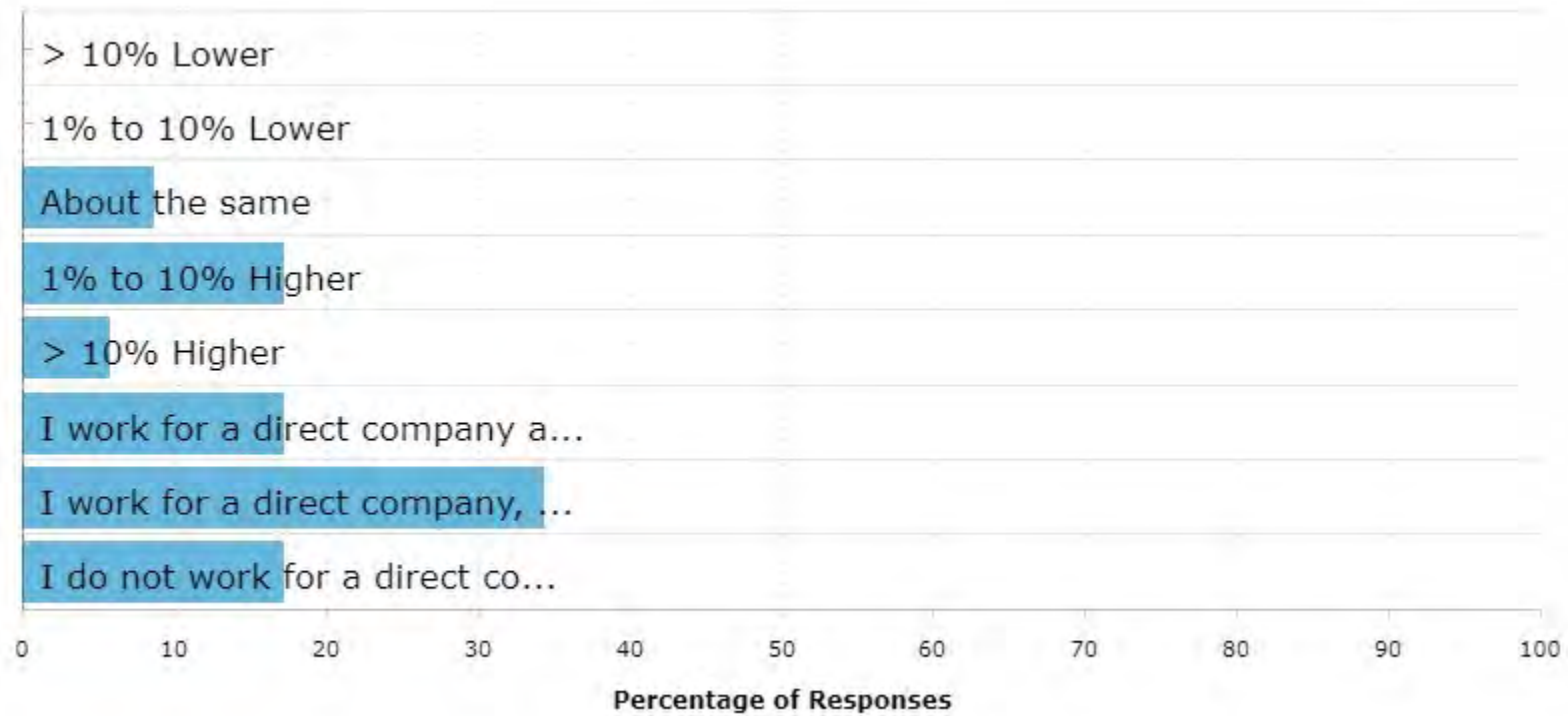1% to 10% Lower

About the same

1% to 10% Higher

> 10% Higher

I work for a direct company and we do not have a program

I work for a direct company, but do not know

I do not work for a direct company

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Poll: How does your mortality experience compare to assumptions?

How does mortality experience compare to assumptions?

24 companies responded

MORTALITY EXPERIENCE VS. ASSUMPTIONS		
EXPERIENCE WAS	**WHEN REQUIREMENTS WAIVED**	**WHEN REQUIREMENTS NOT WAIVED**
> 10% Lower	0	0
1%-10% Lower	1	1
The Same	2	7
1%-10% Higher	3	0
> 10% Higher	4	2
Don't Know	14	14

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Lapse experience

Lapse experience below is based on duration 1-2 experience, 5 companies responded

- 4 of 5 responding companies indicated their lapse experience on policies that qualified to have the underwriting requirements waived was lower than expected, with the other company indicating the experience was higher

- 3 of 5 responding companies indicated their lapse experience on policies that qualified to have the underwriting requirements waived was lower than fully underwritten experience, with 1 being about the same and 1 being higher

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Other Measures

Incomplete, Withdrawn, Not taken

Incomplete

"Applicant did not provide enough information for the algorithm/underwriter to make a decision (the case usually is changed to Incomplete after a waiting period)."

Withdrawn

"The applicant withdraws their application either pre or post the underwriting decision."

Not taken

"The applicant receives the policy but opts not to sign it or surrenders during the free look period. The latter might be difficult for companies to retrieve since it often resides in the Inforce Admin system rather than the New Business system."

Incomplete applications

16 companies responded
Four couldn't divide the results between incomplete and withdrawn and one couldn't divide the results between incomplete, withdrawn, and not taken. In each of these instances, the total provided was divided equally between the categories.

MEASURE	INCOMPLETE		
	% OF FULLY U/W BUSINESS PRIOR TO AU	% WHEN NOT WAIVED	% WHEN WAIVED
Low	1.7%	1%	0.5%
Average	7.1%	7.6%	4.0%
High	14.1%	23.3%	9% (2 co.)
Median	6.0%	6.5%	3.2%

Withdrawn applications

16 companies responded
Four couldn't divide the results between incomplete and withdrawn and one couldn't divide the results between incomplete, withdrawn, and not taken. In each of these instances, the total provided was divided equally between the categories.

| | WITHDRAWN | | |
MEASURE	% OF FULLY U/W BUSINESS PRIOR TO AU	% WHEN NOT WAIVED	% WHEN WAIVED
Low	1.7%	1.7%	0.5%
Average	6.6%	6.9%	3.8%
High	13.2%	18.8%	9.8%
Median	6.5%	6.9%	3.5%

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Not Taken applications

15 companies responded to the % of fully underwritten prior to AU and when requirements not waived, 14 to when waived
One company couldn't divide the results between incomplete, withdrawn, and not taken. In this instance, the total provided was divided equally between the categories.

MEASURE	NOT TAKEN		
	% OF FULLY U/W BUSINESS PRIOR TO AU	% WHEN NOT WAIVED	% WHEN WAIVED
Low	0.8%	0.6%	0.5%
Average	8.8%	8.6%	5.8%
High	30%	54%	29%
Median	7.8%	6.0%	3.5%

Random Holdouts

"are where a company decides to put an applicant, who has qualified to have their requirements waived, through full underwriting. This is typically done randomly, e.g., every 10th case, every 25th case, etc."

Random Holdouts – Percentage Held Out

15 companies responded

RANDOM HOLDOUTS	
MEASURE	**PERCENTATGE HELD OUT**
Low	0.5%
Average	5.9%
High	11%
Most common	5% (5 co.)

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Post-Issue Audits

"are when an insurance company collects additional information on the applicant after the policy has been issued, e.g., an APS, to help determine if they missed any important information when they waived the underwriting requirements for that applicant."

Post-Issue Audits – Targeted vs. Actually Audited

10 companies responded

TARGETED	
MEASURE	**PERCENTATGE TARGETED**
Low	2%
Average	18.7%
High	100%
Most common	5% (2 co.)

AUDITED	
MEASURE	**PERCENTAGE AUDITED**
Low	0%
Average	10.4%
High	52%
Most common	None were same

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Tools used for post-issue audits

15 companies responded with between 1 (6 co.) and 4 (1 co.) tools

TOOL	NUMBER OF COMPANIES
APS	11
MIB Plan F Follow up	6
Prescription histories	5
Inspection report	1
MIB	1
MVR	1
Consumer data	0
Credit data	0
Identification check	0
Telephonic follow up with insured	0
Other tool (write-in): Consulting company	

Top 3 reasons for conducting post-issue audits

14 companies responded with 2 companies providing only their top reason

REASON	RANK			
	1	2	3	Wt'd Rank
Determine magnitude of cases that slipped through	6	3	0	21
Determine weaknesses in underwriting process *	3	2	8	21
Determine % of cases that slipped through	2	4	2	16
Determine if applicant smokes	2	1	1	9
Be able to quickly catch errors and make changes	0	2	1	5
Other companies do it	1	0	0	3
* One company indicated they look for ways to improve and strengthen the program				

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Estimate of underwriting findings from random holdouts and post-issue audits

Only companies with > 1,000 AU eligible apps that provided breakdowns were used to determine the estimates (Average of 7 random holdout companies and 5 post-issue audit companies used below)

FINDINGS	POSITIVE			NEGATIVE		
AUDIT	BETTER THAN EXPCT'D	AS EXPCT'D	WORSE RISK CLASS	SMOKER	SUB-STD	DECLINE
Random holdouts	8%	70%	18%	2%	2%	1%
Post-issue audits	3%	83%	10%	1%	2%	1%
Estimated Mortality	**75%**	**100%**	**125%**	**200%**	**200%**	**600%**
Resulting mortality is 109.5% for random holdouts and 108.7% for post-issue audits.						

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Disclosures

Waiving requirements, Rescissions

When post-issue audit finds a case that should have been declined

14 companies responded

DO YOU RESCIND THE POLICY?	
Yes, in all circumstances	1
Yes, some in some circumstances*	13
Never	0

* Two companies indicated that they are currently reviewing their policy

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Reasons for rescinding a AU policy

24 companies responded

WILL YOU RESCIND A POLICY UNDER YOUR AU PROGRAM FOR:	
REASON	**NUMBER OF COMPANIES**
Material nondisclosure	17
Material misrepresentation	22
Other reasons	0
Not applicable, we never rescind	2

Two companies indicated that they use the same rules as on traditional underwriting

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Comparison of Nondisclosure and Material Misrepresentations between AU and Traditional

21 companies responded

LEVEL	DO YOU EXPECT THE FOLLOWING TO BE LESS, THE SAME, OR MORE THAN ON YOUR TRADITIONAL PROGRAMS?		
	MATERIAL NONDISCLOSURE	MATERIAL MISREPRESENTATION	FRAUD
Less *	1	1	1
Same	9	7	14
More **	11	12	4
# Companies	21	20	19

* The company that indicated less nondisclosure and misrepresentation did so because they have a different underwriting approach for AU.

 ** Six companies indicated that they felt that there may be slightly more nondisclosure, but it shouldn't be significant.

When requirements are not waived

DO YOU RETAIN THE FOLLOWING?		
	REASON	**SOURCE**
Yes	23	21
No	3	3
% Yes	88%	88%
# Companies	26	24

DO YOU DISCLOSE THE FOLLOWING?		
	REASON	**SOURCE**
Yes	6	6
No	19	9
% Yes	24%	35%
# Companies	25	17

Comments (from some) included that information generally retained and disclosed at high level and that disclosure sometimes varies between applicant and agent.

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Challenges and Plans

Poll – What are the top 3 challenges to designing/developing an AU program?

Creating algorithm

Determining mortality assumptions

Agent buy-in

Management buy-in

Deciding what data to use

Emerging data sources
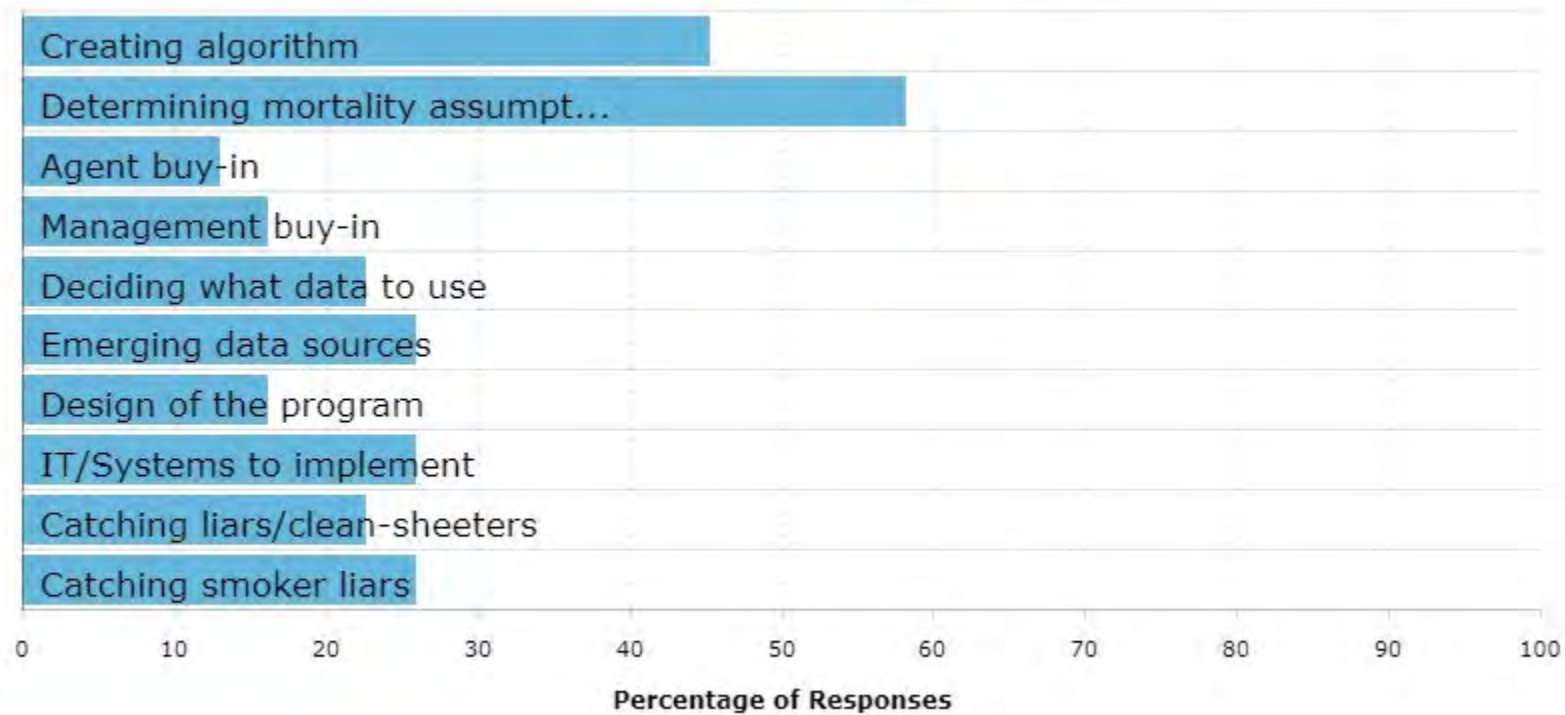
Design of the program

IT/Systems to implement

Catching liars/clean-sheeters

Catching smoker liars

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Poll: What are the top 3 challenges to designing/developing an AU program?

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Top 5 challenges in designing/developing your AU program

27 companies responded

CHALLENGE	RANK					Wt'd Rank
	1	2	3	4	5	
IT/Systems to implement	4	1	7	2	3	52
Creating algorithm	3	6	1	2	0	46
Design of program	3	2	3	6	1	45
Catching smoker liars	5	2	1	1	1	39
Agent buy-in	3	3	1	0	3	33
Determining mortality assumptions	2	1	3	2	1	28
Assumption setting	0	1	5	0	4	23
Management buy-in	2	2	1	0	0	21
Ensuring mortality is close to expected	2	1	1	1	0	19
Catching liars/clean-sheeters	0	1	2	4	0	18
Deciding what data to use	1	2	1	0	1	17
Internal underwriter buy-in	1	2	0	0	2	15
Emerging data sources	1	0	1	1	1	11
Deciding what vendor to use	0	0	1	2	3	10
IT/Systems to manage/monitor	0	0	0	4	2	10

Other challenges (Wt'd Rank): Other internal stakeholder buy-in (8), Internal actuarial buy-in (4), Reinsurer buy-in (4), Rescissions from post-issue audit findings (3), Random holdouts (2), Vendor buy-in (2), Post-issue audits (1), Determining lapse assumptions (0), Write-ins: Filing and approval of new app (5), Updating preferred criteria (4)

Highlights of Current/Planned Changes

As of 2018 companies indicated they were working on or planned changes to:

- Their **algorithms** (16), with 7 to be additions and 6 to be less restrictive

- **Face Amount limits** (13), with 12 being less restrictive

- Their **data sources** (9), with 8 being new additions

- **The way they collect app data** (9)

- **Random holdouts** (8), with half making them more and half making them less restrictive

- **Issue age limits** (7), with 6 being less restrictive

- **Risk classes that can qualify for waiver** (6), with 5 being added and all 6 being less restrictive

- **Instant decisions** (5), with all being new additions

- **Products** (5), with all 5 being new additions

- **Vendor score(s)** (5), with 4 being less restrictive

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Direct Company PBR

Karen

Aggregation (of Mortality Segments) in the Valuation Manual

2017, 2018, 2019 *Valuation Manuals*

- No contemplation for aggregating policy groups with dissimilar underwriting (as well, "similar" underwriting not defined)

- Only adjustments for *incremental* changes in underwriting, with published medical/clinical studies underpinning the estimated impact, were contemplated

This left Accelerated Underwriting techniques somewhat unguided….

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Aggregation (of Mortality Segments) in the Valuation Manual

2020 *Valuation Manual*

- Permits aggregation of underwriting processes that are expected to produce similar mortality if supported by back-testing performed at least every 3 years, reinsurer studies, or published studies.

- Permits aggregation of underwriting processes for which the expected change to mortality has been reasonably estimated and is due to one or more specific, identifiable modifications to the established underwriting process if supported by back-testing performed at least every 3 years, reinsurer studies, or published studies

Aggregation (of Mortality Segments) in the Valuation Manual

## 2020 language introduces flexibility in aggregating mortality segments

- Without this flexibility AU policy groups would have to stand on their own
  - Critical mass not achieved
  - 0% (or very low) partial credibility
  - Would lead to use of industry table + industry margin

- Additional margin for uncertainty considered a requirement

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VM-20 AU Mortality Assumption Status
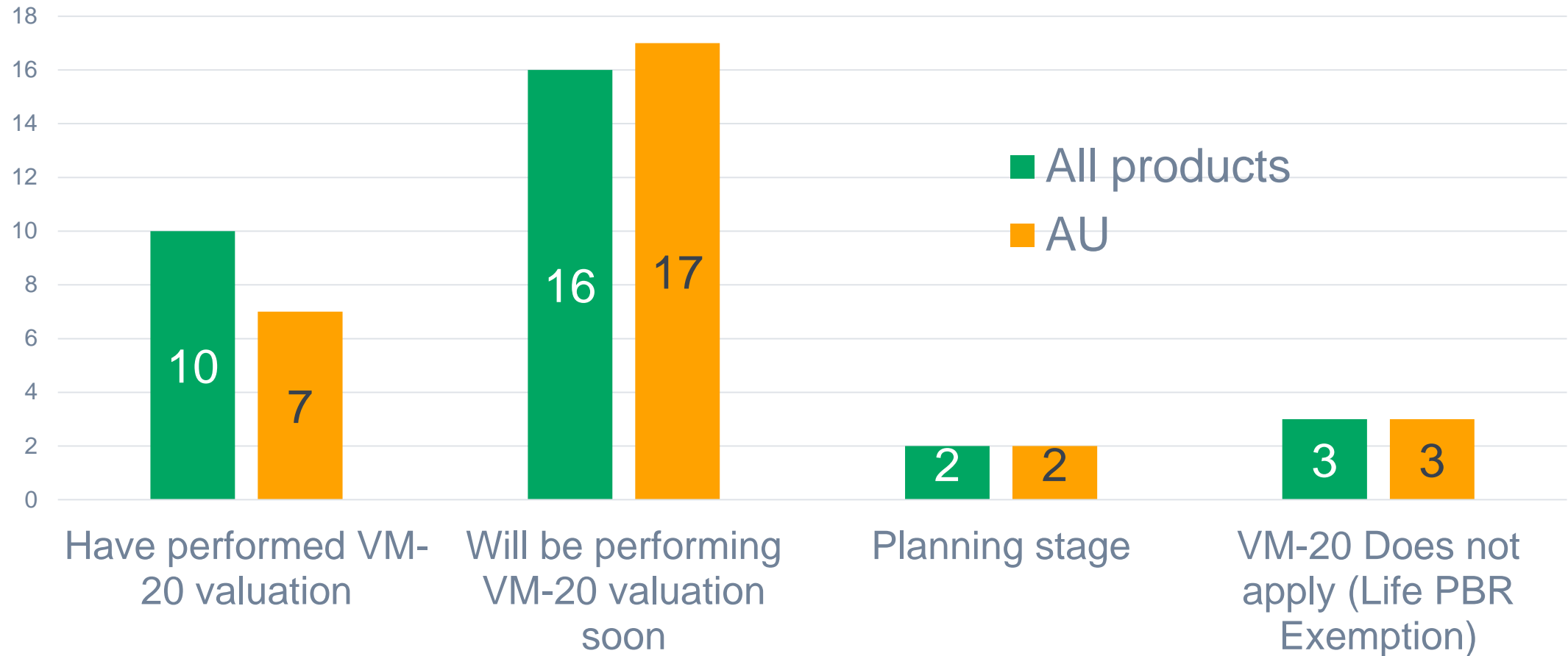
Expected VM-20 Valuation Year for policy groups with AU

Number of Companies

- 2018
- 2019
- 2020

2

9

7

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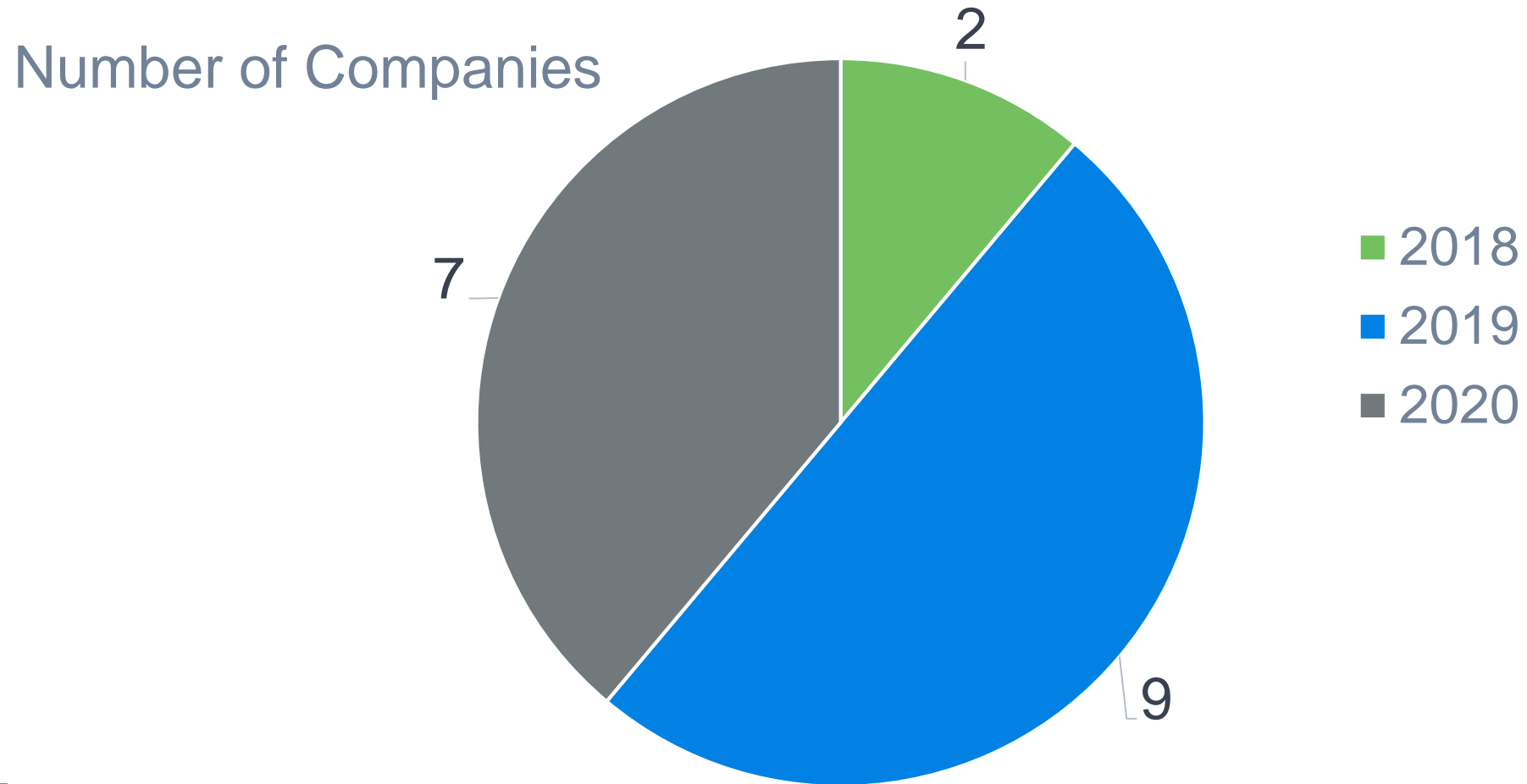
Polling Time

When you develop VM-20 mortality assumption for policy groups which use an AU program, will you (or have you already) aggregated these policies with traditionally underwritten policies for purposes of credibility?
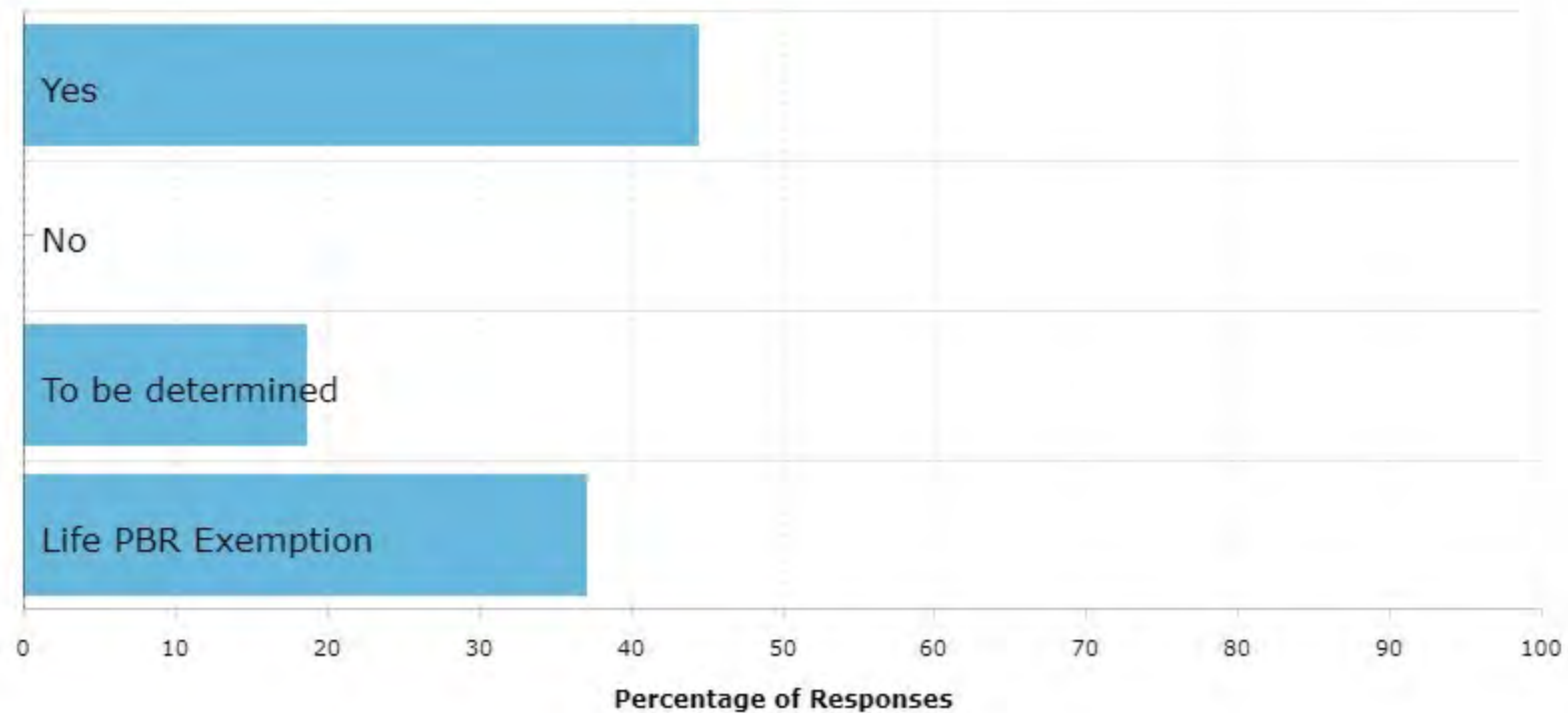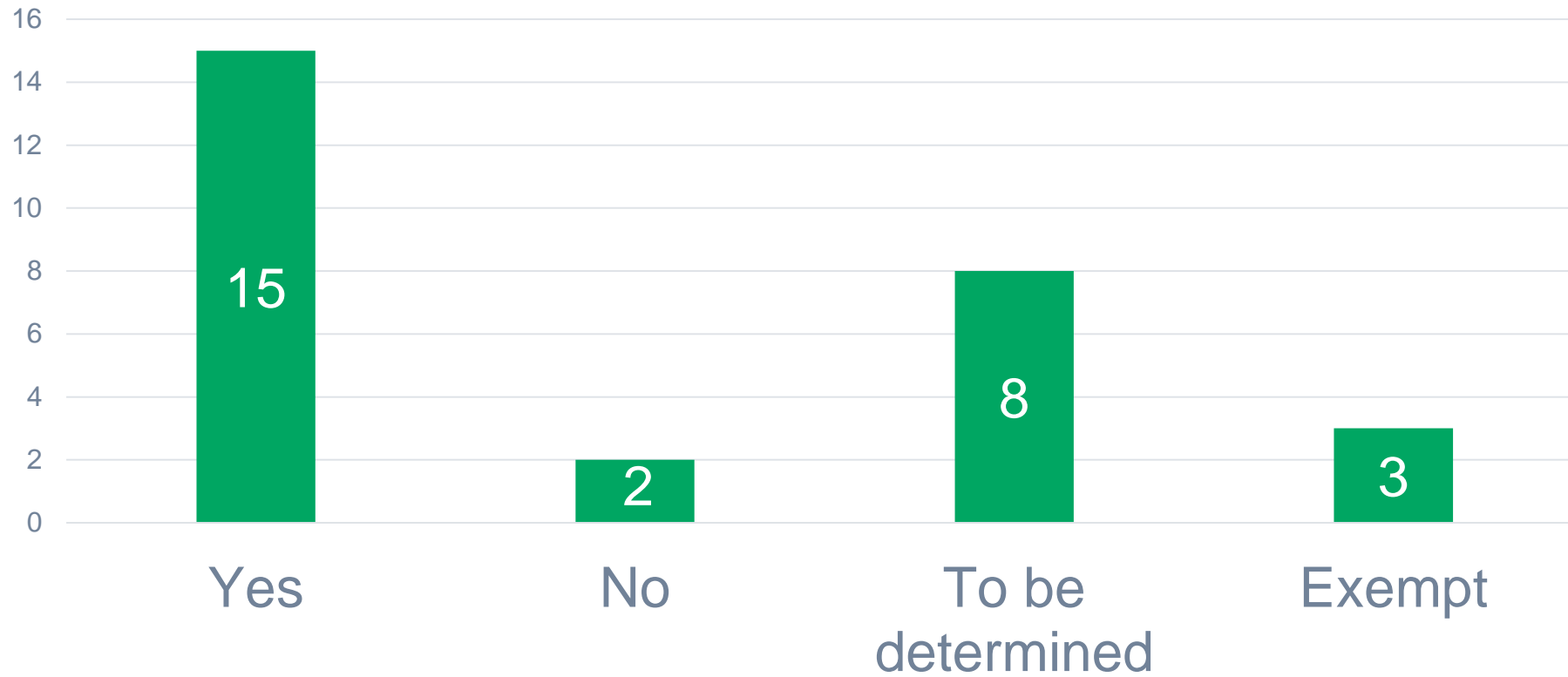
A: Yes

B: No

C: To be determined

D: Life PBR Exemption

Poll: When you develop VM-20 mortality assumption for policy groups which use an AU program, will you (or have you already) aggregated these policies with traditionally underwritten policies for purposes of credibility?

Aggregating for VM-20 Credibility

Of 28 companies with AU programs

	Yes	No	To be determined	Exempt
Value	15	2	8	3

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Supporting Rationale for Aggregating

Of 28 companies with AU programs

Category	Value
Reinsurer Data	7
Medical/clinical study	1
Actuarial Study	7
Industry Study	4
Retrospective demo	12
Other (explain)	4

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Level of Partial Credibility

Aggregation Position	Partial Credibility Reported	Number of Responses
Will Be Aggregated	0-20%	1
Will Be Aggregated	51% +	14
Will Not Be Aggregated	0-20%	1
Will Not Be Aggregated	51% +	1
Unsure, To Be Determined	Unreported	3
Unsure, To Be Determined	0-20%, if AU stands alone	4
Unsure, To Be Determined	0-20%, even if AU aggregated	1
Life PBR Exemption	NA	3
Total		28

Polling Time

For policy groups which use an AU program, indicate the choice which most closely describes the VM-20 company experience assumption for these policies:

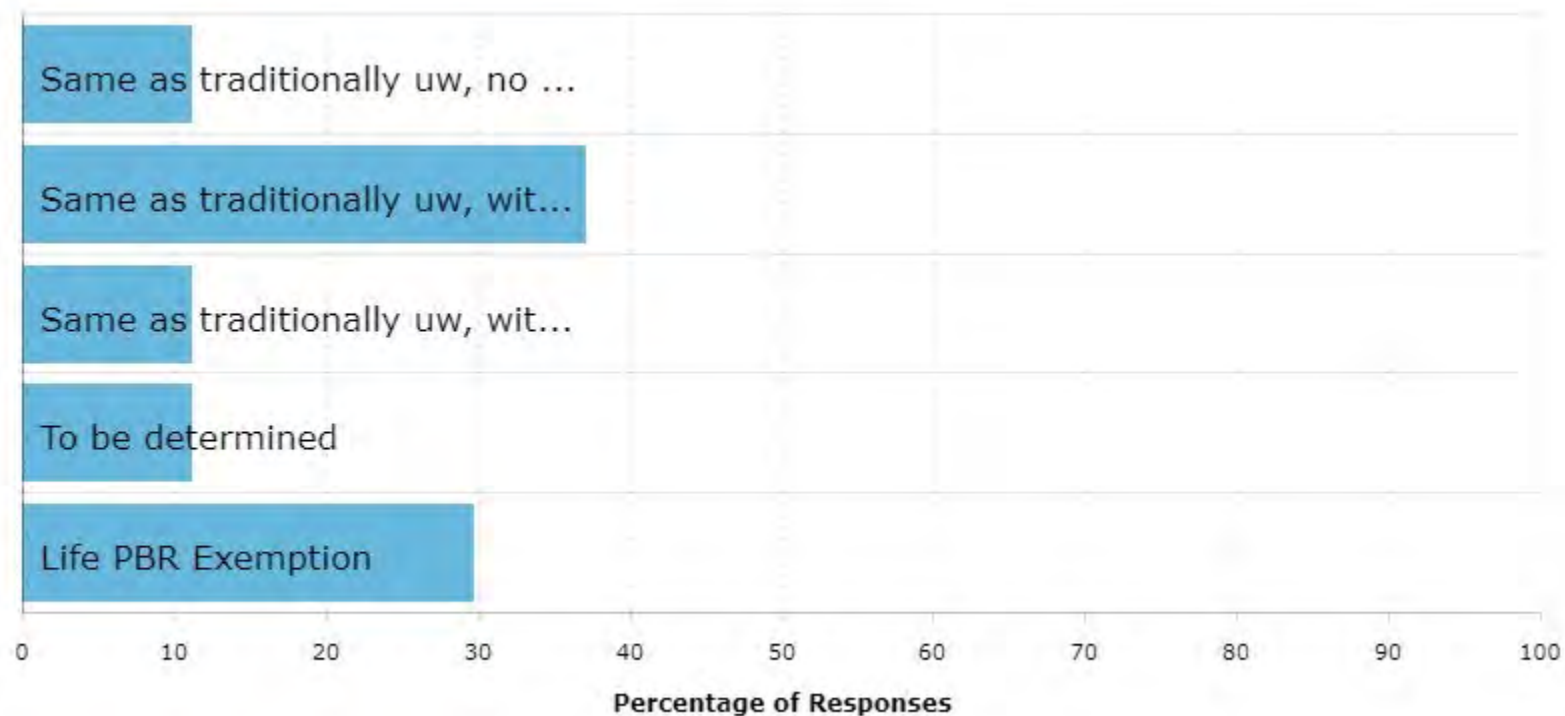A: Same as traditionally uw, <u>no</u> scalars at all

B: Same as traditionally uw, with a scalar applied only to those policies identified in the model as issued with AU program

C: Same as traditionally uw, with a scalar applied across all policies

D: To be determined

E: Life PBR Exemption

Poll: For policy groups which use an AU program, indicate the choice which most closely describes the VM-20 company experience assumption for these policies:

Anticipated Company Experience Mortality

Of 28 companies with AU programs

Same as Traditionally UW	14
Not the same, because treated as stand-alone segment	2
Other	9
Life PBR Exemption	3

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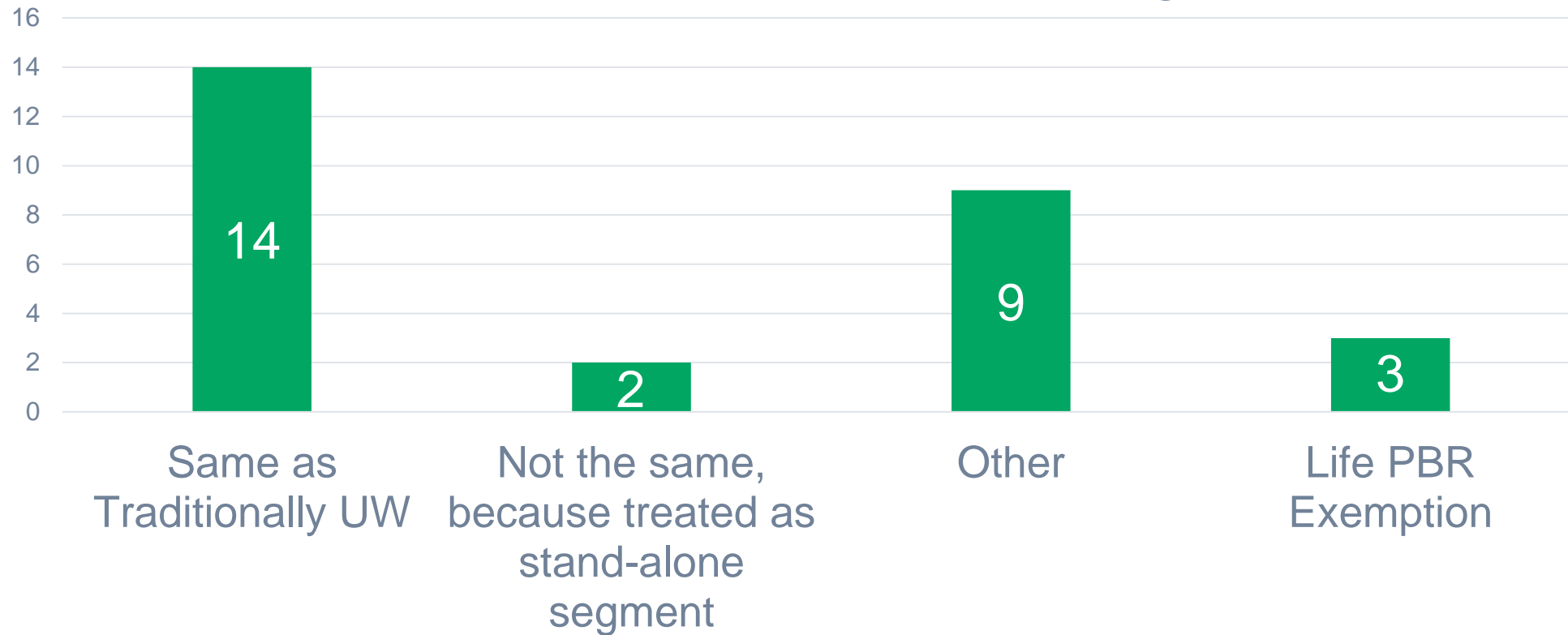
Anticipated Company Experience Mortality

Within the "Other" category, these comments

- Treating AU policies similar to treatment for substandard policies
- Are in the early stages of assumption development. Preliminary plans are to use a blended risk factor based on misclassification assumptions within AU segments. Analysis is on-going to determine if company should treat AU as a stand-alone segment
- There is an adjustment to the total mortality to reflect the AU impact, similar to what is done when making other major underwriting policy changes over time.

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Anticipated Company Experience Mortality

Within the "Other" category, these comments….continued

- Company starts with traditionally underwritten experience and adds adjustments for changes in practice equal to the anticipated percent increase in mortality due to acceleration.

- Company experience plus a factor

- TBD (2)

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Applicable Company Experience Margin

For the AU-issued policies, the margin applied to VM-20 anticipated company experience mortality assumption is:	
	No. of responses
The same as for traditionally underwritten business	10
The same as traditionally underwritten business with an additional margin	9
Stand-alone treatment & prescribed margin deemed sufficient	1
Stand-alone treatment & prescribed margin plus additional margin	3
To Be Determined	2
Life PBR Exemption	3
Total	28

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Applicable Company Experience [Margin]

General Comments

- Treating AU as stand alone, and the additional margin (beyond prescribed margin) is not yet determined

- AU program mortality is expected to be very close to traditionally UW mortality, so the additional margin will be small

- Regulators are looking to change VM-20 to require an extra mortality margin if AU issued policies are involved

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Applicable Industry Mortality

Of 28 companies with AU programs

Combine and use same	15
Combine and use higher	4
Combine and use lower	
Stand-alone and industry table is higher	2
TBD	3
Other (SubStd-type treatment)	1
Exempt	3

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Applicable Industry Mortality

General Comments

- Would only bump to the next RR table if expected increase was significant enough
- Early stages, have not determined approach

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Individuals/Groups involved in mortality assumption process

	Development	Review
Internal Staff	21	20
Reinsurer	6	2
Consultant	2	6
Vendor	2	1

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Data sources used to establish mortality expectations

Company's own internal experience data not written through AU (ex: traditionally UW policies)	17
Retrospective demonstrations that demonstrate mortality expectations for policies issued through AU as compared to those issued through traditional UW process	15
Reinsurers have provided the company with its basis for expected mortality for policies issued through AU	13
Company's own internal experience data for only policies issued through AU programs	9
Published medical, clinical, actuarial, or industry studies that demonstrate mortality expectations for policies issues through AU as compared to those issued through traditionally UW processes	6
Consultants have provided the company with its basis for expected mortality for policies issued through AU	1
To Be Determined	1

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Reinsurer Opinions

AI

Introduction

Overview

- 5 reinsurers responded to the reinsurer survey, but some did not answer all of the questions

- On some of the ranking questions, a couple of reinsurers decided to use more votes than we gave them

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Range of Expected Mortality when <u>Requirements Waived</u>

5 reinsurers responded

RELATIVE TO FULLY U/W MORTALITY LEVELS IN 2018 (AND EXCLUDING MORTALITY IMPROVEMENT), WHERE WILL MORTALITY BE IN 2023?	LOW MORTALITY CLIENT	HIGH MORTALITY CLIENT
More than 50% lower	0	0
More than 20% up to 50% lower	0	0
More than 10% up to 20% lower	0	0
1-10% lower	2	0
Within 1% in either direction	0	0
1-10% higher	3	1
More than 10% up to 20% higher	0	2
More than 20% up to 50% higher	0	2
More than 50% higher	0	0

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Range of Expected Mortality when <u>Requirements Not Waived</u>

5 reinsurers responded

RELATIVE TO FULLY U/W MORTALITY LEVELS IN 2018 (AND EXCLUDING MORTALITY IMPROVEMENT), WHERE WILL MORTALITY BE IN 2023?	LOW MORTALITY CLIENT	HIGH MORTALITY CLIENT
More than 50% lower	0	0
More than 20% up to 50% lower	0	0
More than 10% up to 20% lower	1	0
1-10% lower	2	0
Within 1% in either direction	1	1
1-10% higher	1	3
More than 10% up to 20% higher	0	0
More than 20% up to 50% higher	0	1
More than 50% higher	0	0

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Range of Expected Lapse Rates when Requirements Waived

5 reinsurers responded

RELATIVE TO FULLY U/W LAPSE RATE LEVELS IN 2018, WHERE WILL LAPSE RATES BE IN 2023?	LOW LAPSE CLIENT	HIGH LAPSE CLIENT
More than 3% lower	3	0
More than 1% up to 3% lower	1	1
Within 1% in either direction	0	3
More than 1% up to 3% higher	0	0
More than 3% higher	0	0
Do not know	1	1

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Range of Expected Lapse Rates when Requirements Not Waived

5 reinsurers responded

RELATIVE TO FULLY U/W LAPSE RATE LEVELS IN 2018, WHERE WILL LAPSE RATES BE IN 2023?	LOW LAPSE CLIENT	HIGH LAPSE CLIENT
More than 3% lower	0	0
More than 1% up to 3% lower	1	0
Within 1% in either direction	4	3
More than 1% up to 3% higher	0	2
More than 3% higher	0	0
Do not know	0	0

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Poll – What are the top 3 AU components that have an impact on mortality?

Algorithm used

Application data

FCRA approved data

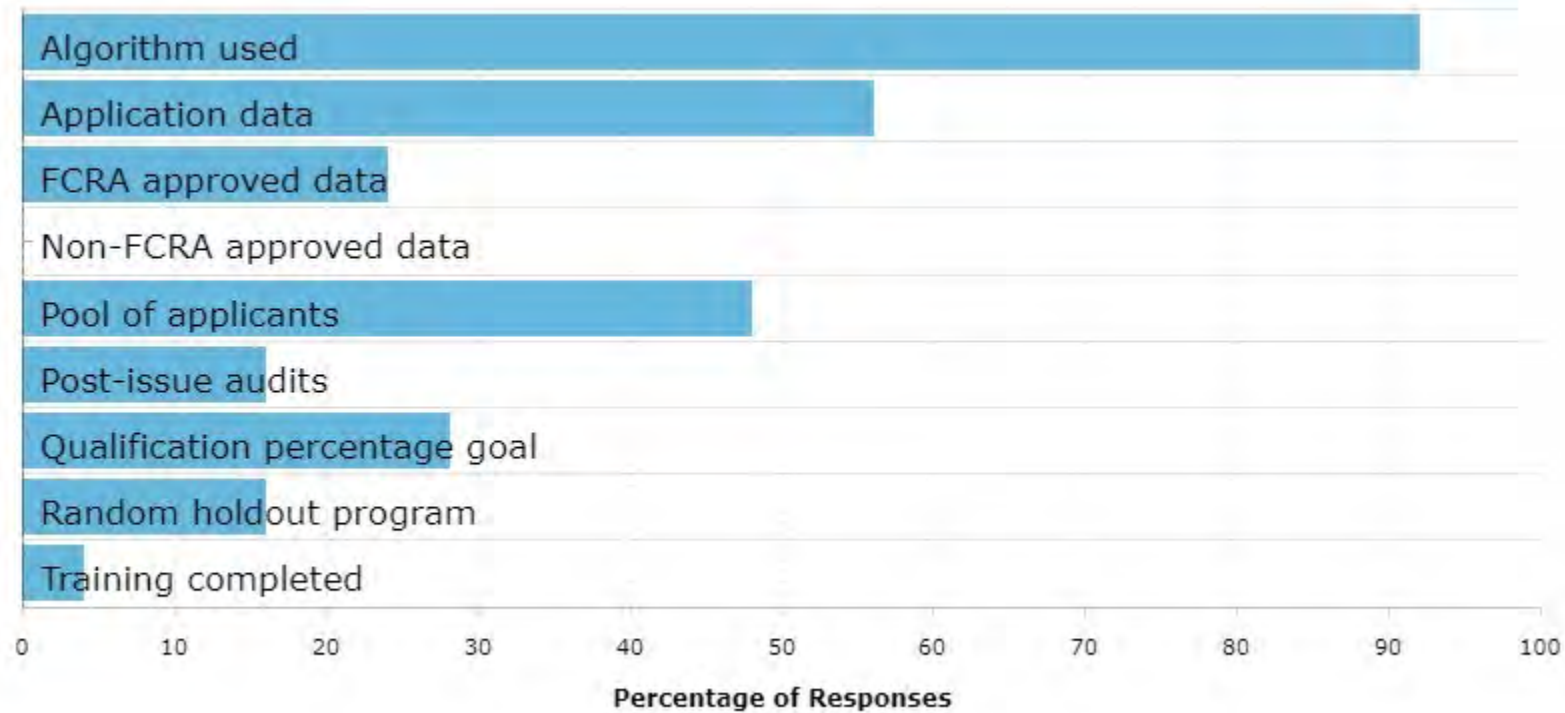Non-FCRA approved data

Pool of applicants

Post-issue audits

Qualification percentage goal

Random holdout program

Training completed

Poll: What are the top 3 AU components that have an impact on mortality?

Percentage of Responses

Top 5 AU components that have an impact on mortality

4 reinsurers responded, 1 reinsurer provide two votes for rank 2

AU COMPONENT	RANK					Wt'd Rank
	1	2	3	4	5	
Application data	1	2	0	1	0	15
FCRA approved data	1	0	2	0	0	11
Random holdout program	0	1	1	1	0	9
Qualification percentage goal	1	0	1	0	0	8
Algorithm used	1	0	0	0	2	7
Post-issue audits	0	1	0	1	1	7
Other (write-in) Pool of applicants	0	1	0	0	0	4
Non-FCRA approved data	0	0	0	1	0	2
Training completed	0	0	0	0	1	1

Note: One reinsurer added a comment that "the importance of these items will vary by client and program."

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Top 6 Items/Tools for success in AU programs

5 reinsurers responded, 1 reinsurer provided two votes for ranks 3 & 6 and another provided two rank 6 votes

ITEM / TOOL	RANK						Wt'd Rank
	1	2	3	4	5	6	
Prescription histories	3	1	1	0	0	0	27
Credit data	0	1	1	2	0	0	15
MIB	1	0	1	0	2	0	14
Electronic Health Records	1	1	0	0	1	0	13
Random holdouts	0	1	1	0	0	2	11
MVR	0	0	1	2	0	0	10
Predictive algorithm(s)	0	1	0	0	1	1	8
Post-issue underwriting	0	1	0	0	0	1	6
Financial data	0	0	1	0	0	0	4
Demographic data	0	0	0	1	0	0	3

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Advice on design, implementation, or overall success of AU programs

4 reinsurers responded

ADVICE
Start conservative and expand gradually as you learn.
Be open to new data, but cognizant of how it is currently viewed by regulators, and how it might change in the future.
Be clear on program objectives.
Communicate and train as you develop the program.
Have strong focus on change management and training of staff.
Do back-testing so you have benchmarks to compare to emerging results.
Experience monitoring is critical so you can learn quickly and adjust as issues emerge. Don't wait.
It is essential to have a random holdout process and post-issue audits so data can be collected and analyzed for comparison to your initial pricing assumptions (credible experience studies are a few years out).
Track misrepresentation rates (smoking, BMI, personal/family history), misclassification, and severity of declines that would have been accepted standard or better.
Monitor early duration lapse and preferred class prevalences compared to fully underwritten.
Engage your reinsurance partners for help in setting up your AU program and monitoring process.

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Concluding thoughts – Part 1

- AU programs are still relatively new

- They will continue to evolve as:

  - Agents and applicants provide feedback

  - Companies better understand the programs

  - Companies decide how to better position themselves

  - New tools become available

  - Regulatory positions are taken

- I think AU programs provide a more positive customer experience, but companies need to be aware of the extra costs so they maintain their profitability

- I also think that 10 years from now, these programs won't look like they are today

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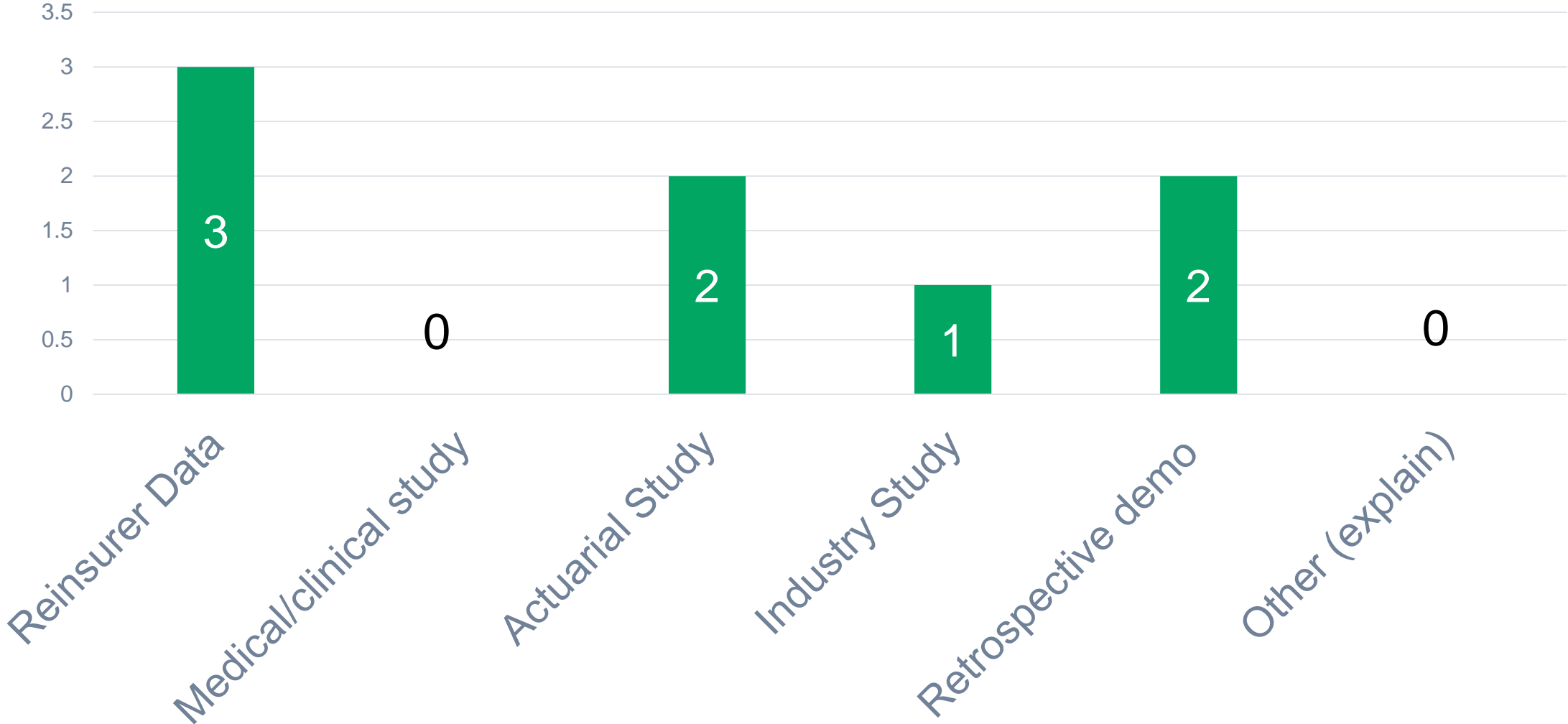
Reinsurer PBR

Karen
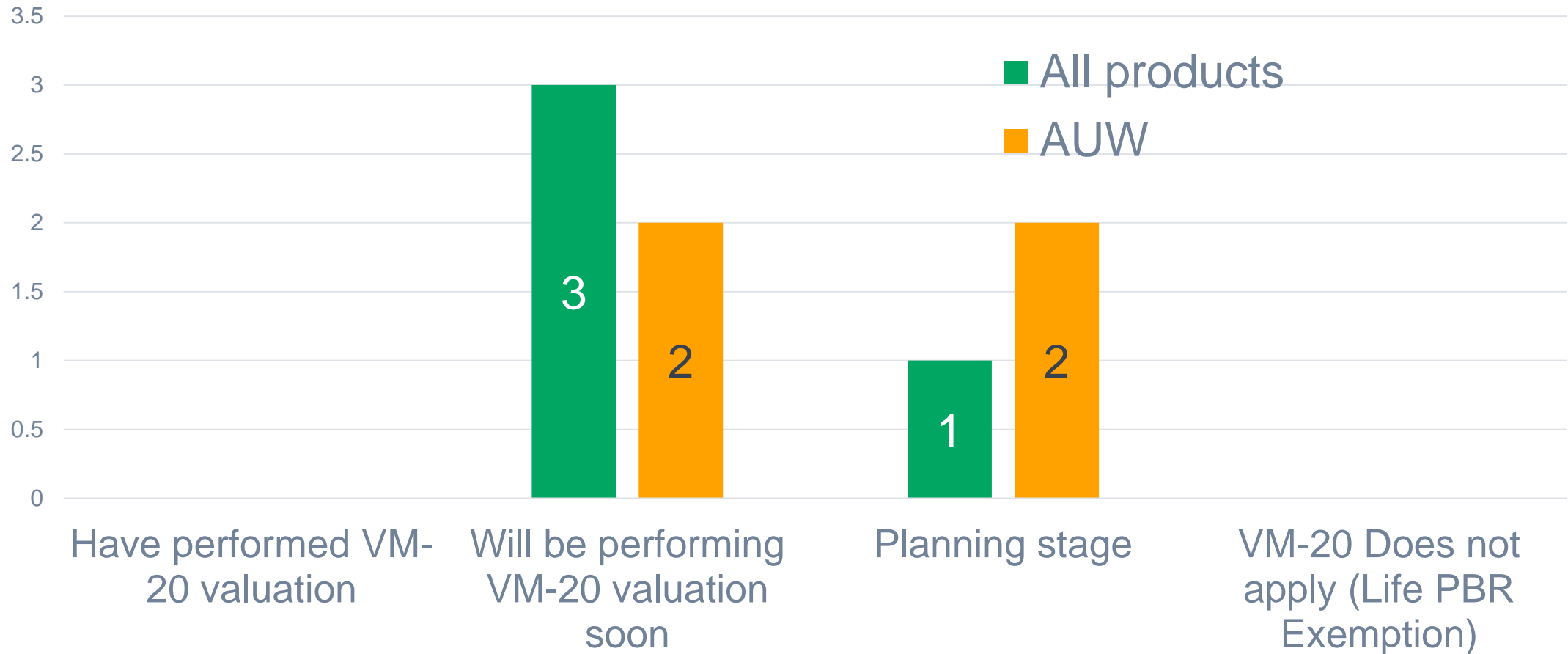
Aggregating for VM-20 Credibility
4 Reinsurer Participants

Aggregating AU policies with Traditionally underwritten policies

	No. of responses
Will Be Aggregated	2
Will Not Be Aggregated	1
Unsure, To Be Determined	1
Life PBR Exemption	0
Total	4

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Supporting Rationale for Aggregating
4 Reinsurer Participants

Anticipated Company Experience Mortality and Margin
4 Reinsurer Participants

Experience Mortality	Responses
The same as for traditionally UW business	1 of 4
Not the same, AU treated as stand-alone segment	2 of 4
Other: *"Advancement of predictive analytics tool would be expected to allow companies to get to traditionally UW levels of mortality going forward "*	1 of 4
Margin on Mortality	**Responses**
The same as for traditionally UW business	2 of 4
Not the same, AU treated as stand-alone segment	2 of 4

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Industry Mortality Table
4 Reinsurer Participants

Industry Mortality	Responses
The same as for traditionally UW business, AU and traditionally UW combined	2 of 4
The same as for traditionally UW business, while AU treated as stand-alone segment	1 of 4
Higher than traditionally UW business, while AU treated as stand-alone segment	1 of 4

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Data sources used to establish mortality expectations
4 Reinsurer Participants

Source of Data used to Establish Expected Mortality	Responses
Companies own internal experience data for only AU policies	3 of 4
Our company's own internal experience data not written through AU program (ex. The traditionally UW policies)	2 of 4
Published medical, clinical, actuarial, or industry studies that demonstrate mortality expectations for policies issue through AU programs as compared to those issue through previously established UW processes	2 of 4
Retrospective demonstrations	3 of 4

Concluding thoughts – Part 2

- The report and complete survey results will be posted on the SOA website when done (sometime this year)

- Please contact us with any feedback or questions

- We would like to thank:

  - The SOA for allowing us to do this survey

  - The participating companies for taking the time to complete the survey and for their willingness to share early results and feedback

  - The POG for their insightful help in designing the survey and comments on this presentation

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Thank you

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Questions?

Bio – Al Klein

- Principal and Consulting Actuary, Milliman, Buffalo Grove (Chicago), IL, since 2009

- Responsible for industry experience studies at Milliman, mortality/longevity/life underwriting consulting, helping InsurTech companies enter the life insurance marketplace

- Frequent national and international speaker on many topics

- SOA activities: Chair of Underwriting Issues and Innovation Seminar planning committee, Chair of Accelerated Underwriting Practices and Mortality Improvement surveys, Chair of POG for Economic Costs of Opioid Epidemic paper, Member of Mortality and Longevity Steering Committee, Consistent Framework for Mortality Improvement Assumptions Team, Actuaries Longevity Illustrator Team, WILL (Workable Innovations for Living Longer) Contest Team, Mortality and Underwriting Survey Committee, 2015 Valuation Basic Table team

- Other activities: Co-Vice Chair of the International Actuarial Association Mortality Working Group, Chair of MWG Research Projects Team, Drivers of Future Mortality and Underwriting Around the World research projects, Member of Longer Life Foundation Advisory Board

- Awards: One of 2017 SOA Volunteers of the Year, Best paper for 2018 SOA Product Development Section contest on creative presentation of future technologies, SOA Outstanding Presentation awards in 2016 and 2018

- Bachelor of Science degree in Actuarial Science and Finance, University of Illinois, Champaign/Urbana

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