

Long-term care in a COVID-19 world

Findings from Milliman's 2020 LTCL survey

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Welcome

AGENDA

- Results from August survey
 - Focused on COVID impact on LTC
 - Responses received in late August/early September
 - Q2 data would have been available to respondents
 - Sent to companies with standalone LTC blocks
 - 20 companies responded
 - 16 carriers
 - 3 reinsurers
 - 1 anonymous response
- Other considerations
- What's next

Presenters



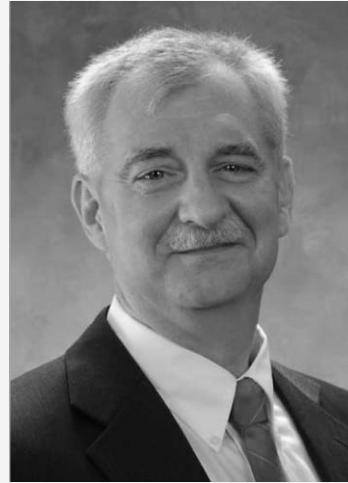
Mike Bergerson

FSA, MAAA
Principal and
Consulting Actuary



Robert Eaton

FSA, MAAA
Principal and Consulting
Actuary



Jim Stoltzfus

FSA, MAAA, CERA
Principal and
Consulting Actuary



Andrew Dalton

FSA, MAAA
Principal and
Consulting Actuary

LTC – General impact of COVID-19

Please select the response that best describes your company's position regarding the impact of COVID-19 on LTC.

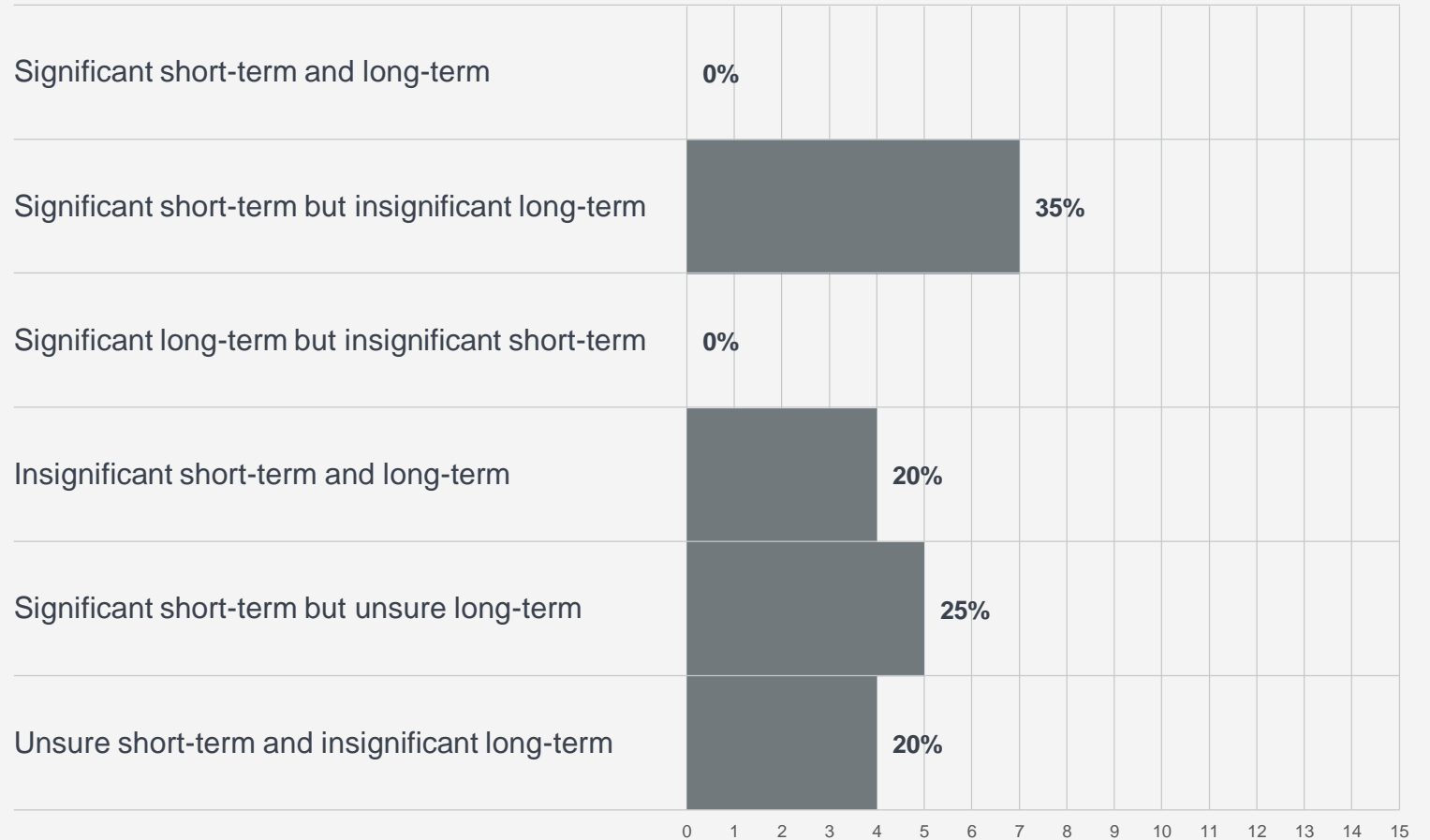
Question addresses the general impact on LTC insurance.

Key observations

- Roughly half of respondents see a significant short-term impact.
- No respondents indicate they see significant long-term impacts, but half of respondents are unsure of long-term impacts.

Items for investigation

- What does significant/insignificant mean? Do short-term impacts have long-term implications?
- More to come on short-term impacts observed and sensitivity testing.



A photograph showing the backs of four healthcare workers in blue scrubs walking away on a sidewalk. They are positioned next to a brick wall on the left and a street with parked cars on the right. The scene is captured from a low angle, emphasizing their movement away from the viewer.

Persistency

Andrew Dalton

Survey question:

In the emerging LTC mortality experience since the onset of COVID-19, what have you observed?

LTC mortality – A look at mortality overall

In the emerging LTC mortality experience since the onset of COVID-19, what have you observed?

Select the response that best describes your company's experience.

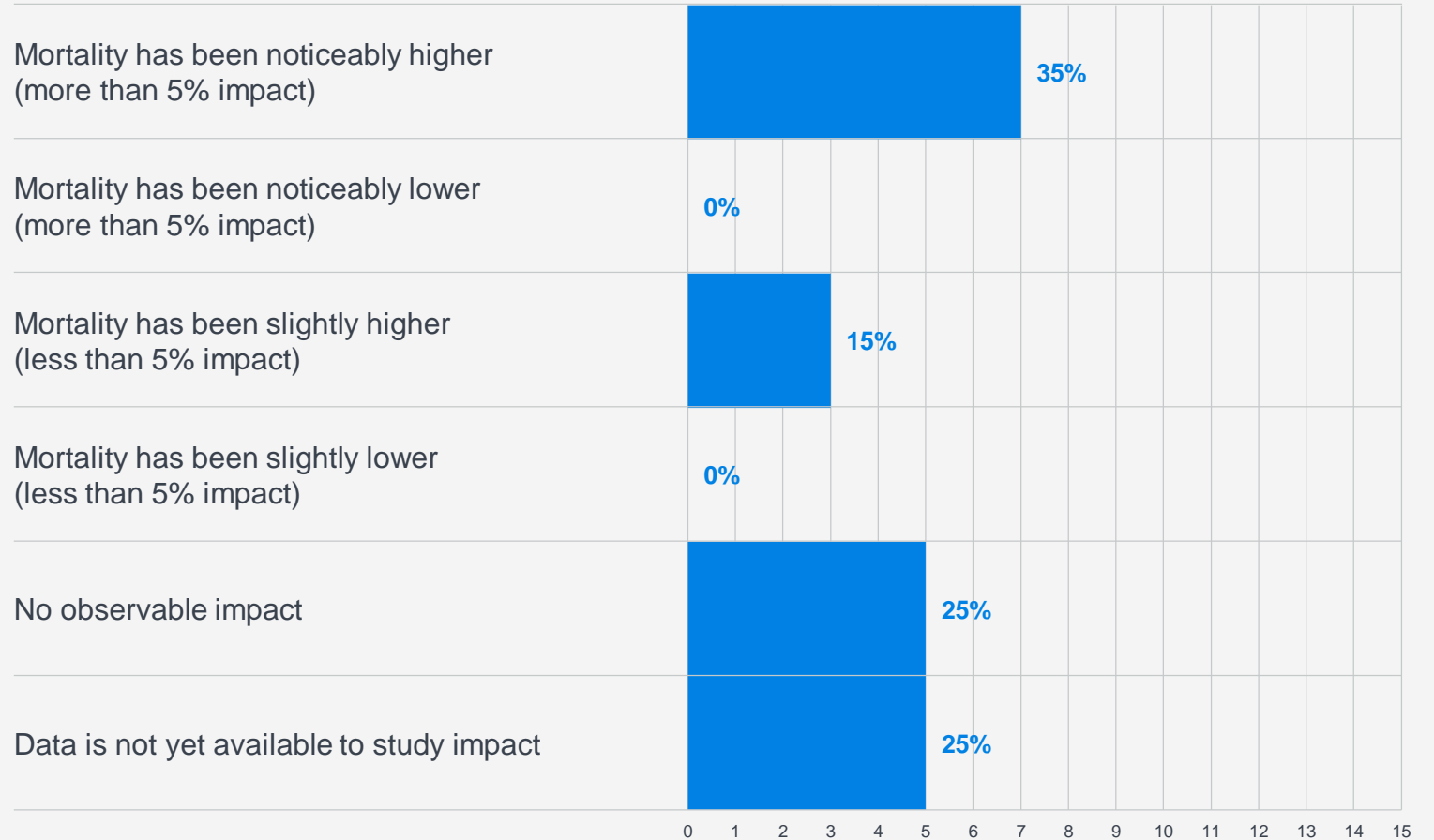
Question addresses mortality generally but did not specify active vs. disabled life mortality.

Key observations

- Half of the respondents have seen an increase in mortality (either slight or moderate), with a strong response indicating a 5%+ impact.
- No respondents reported a decrease in mortality.
- Half of respondents had no observable impact or indicated that data is not yet available.

Items for investigation

- Active vs. disabled split... more to come.
- Credibility of emerging data.
- Techniques used for measurement.



Survey question:

In the emerging LTC mortality experience since the onset of COVID-19, have you observed differences between active and disabled mortality impacts?

LTC mortality – Active vs. disabled life mortality

In the emerging LTC mortality experience since the onset of COVID-19, have you observed differences between active and disabled mortality impacts?

Select the response that best describes your company's experience.

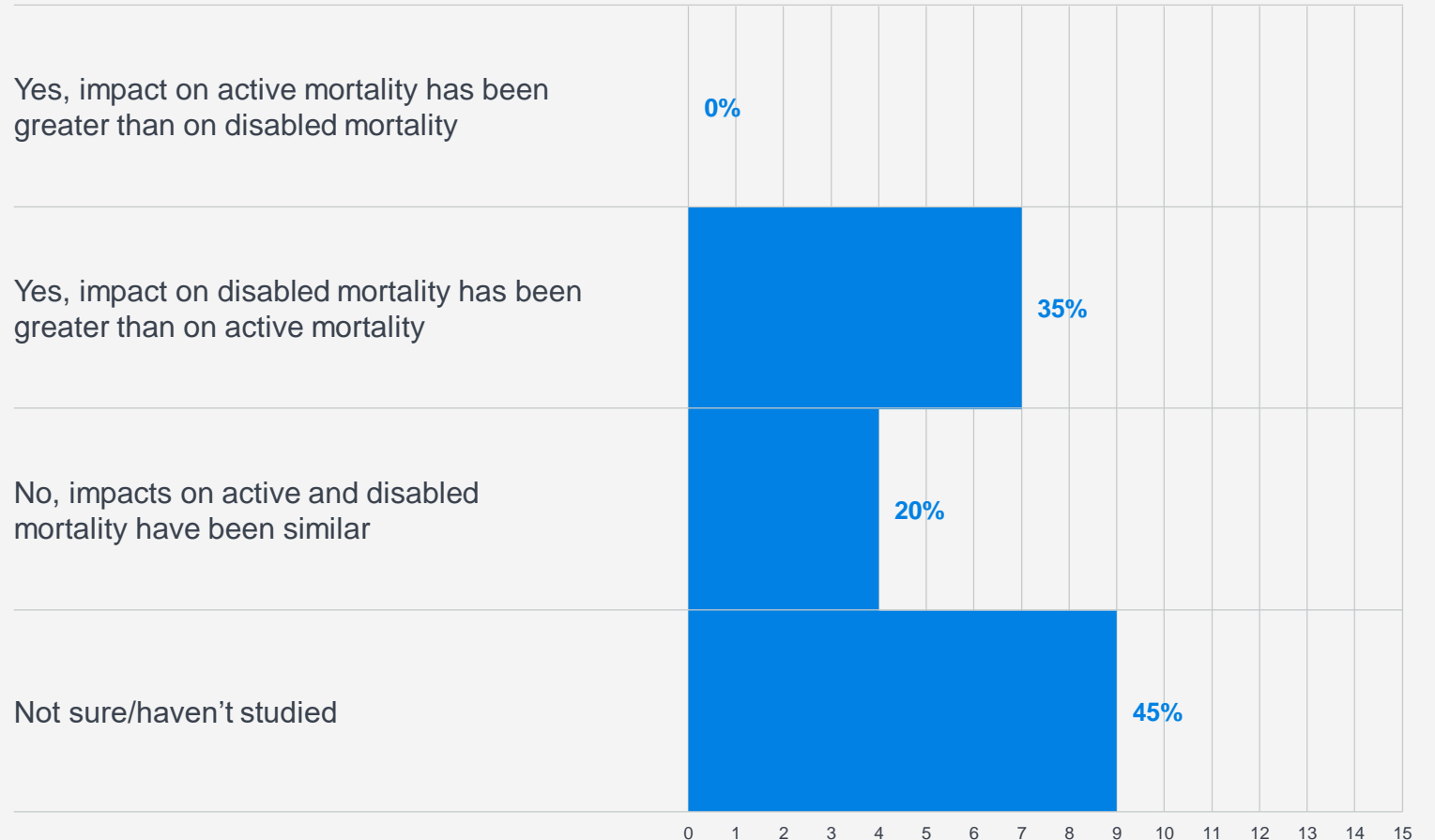
Question asks participants to distinguish the COVID-19 impact between active and disabled life mortality.

Key observations

- Roughly half of respondents had a view on this question.
- Majority of those indicated that impact on disabled life mortality was greater than active life mortality.
- Significant number observed similar impacts on active and disabled life mortality.

Items for investigation

- What does “similar” mean – same multiplicative load?
- Have companies studied impact by attained age or other characteristics?
- Impacts on ALR, DLR, GPV?



Survey question:

In the emerging LTC disabled mortality experience since the onset of COVID-19, have you observed differences by situs?

LTC mortality – Deeper look at disabled life mortality

In the emerging LTC disabled mortality experience since the onset of COVID-19, have you observed differences by situs?

Select the response that best describes your company's experience.

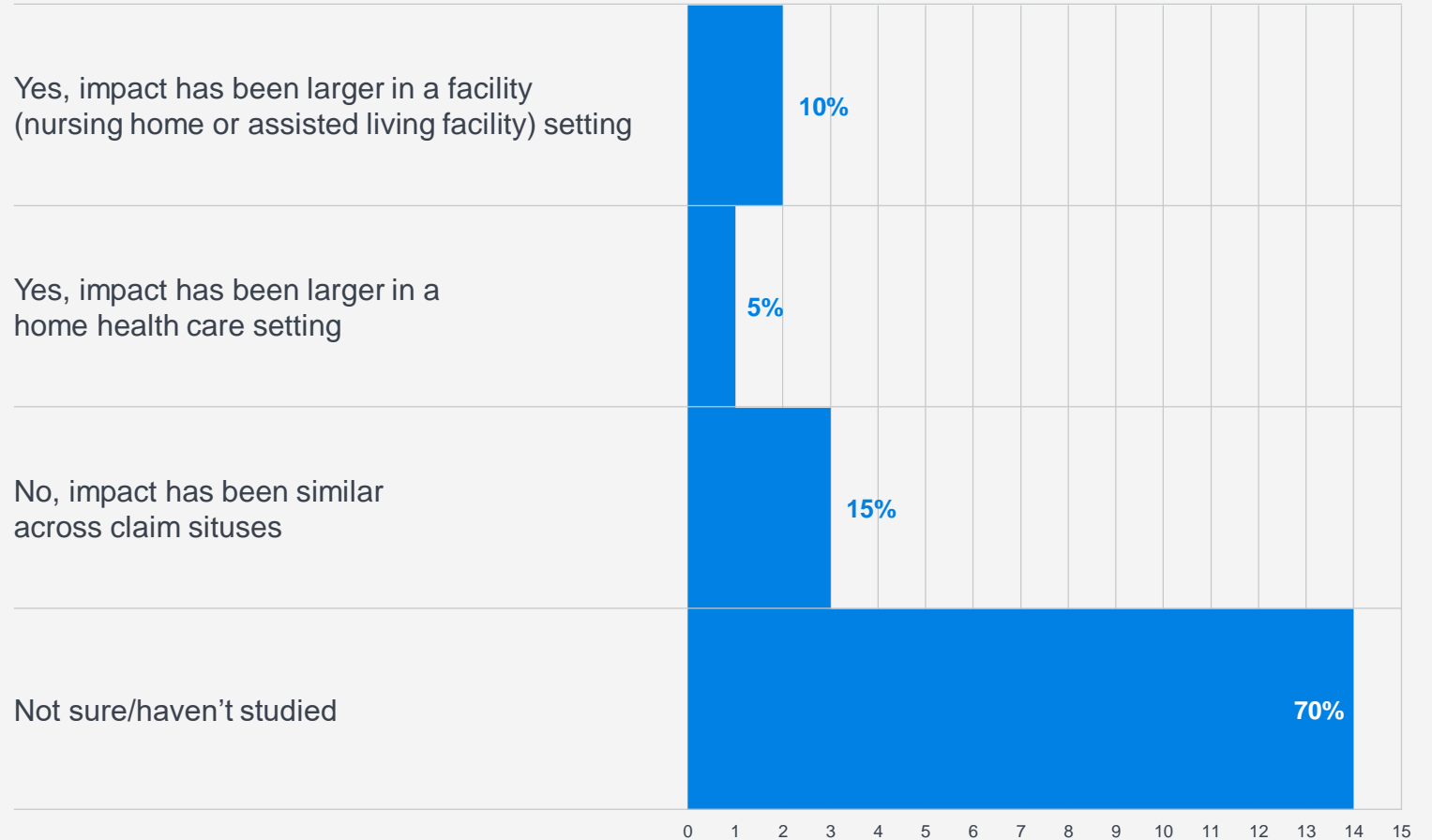
Question addresses differences in disabled life mortality by situs.

Key observations

- Limited responses, suggesting it is still early to have credible data.
- No strong signal indicating one situs experience larger impact.

Items for investigation

- How is claimant mortality impacted by shift in situs – e.g., away from nursing homes?
- Will there be a lingering impact on claimant mortality due to deferred claims?



Survey question:

In the emerging LTC voluntary lapse experience since the onset of COVID-19, what have you observed?

LTC lapses – A brief look at voluntary lapses

In the emerging LTC voluntary lapse experience since the onset of COVID-19, what have you observed?

Select the response that best describes your company's experience.

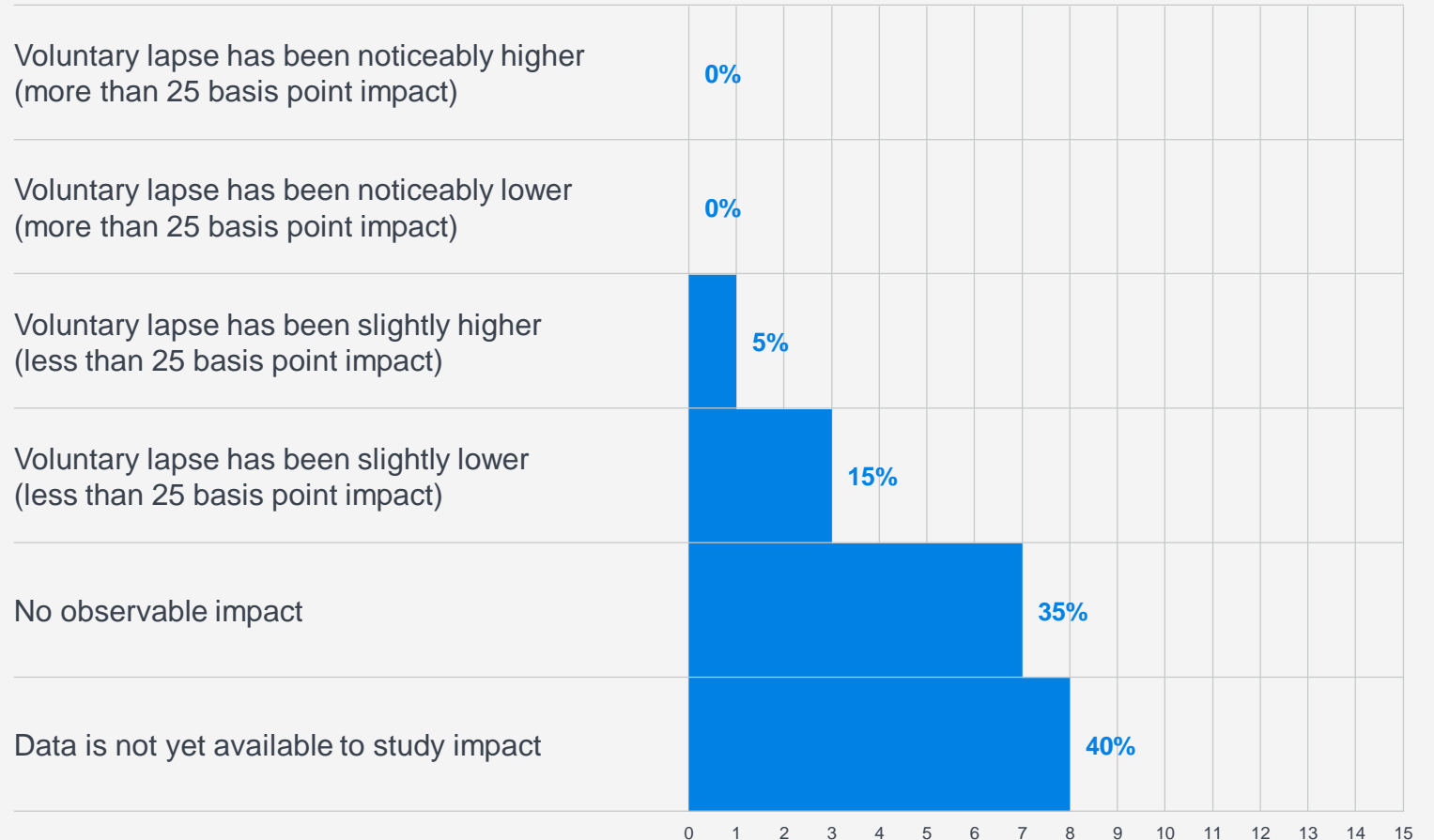
Question addresses the directional impact on lapses.

Key observations

- Majority responses indicate no impact or lack of available data.
- Respondents who have seen an impact favor lower lapses. However, this may be due to premium grace periods. A strong majority of responses to a separate question indicate grace periods of 3-6 months or as required by DOI.

Items for investigation

- Important to keep in mind that the short-term impact may be different than the long-term impact.
- Economic impacts, perceived value of LTC coverage, etc.





Morbidity

Mike Bergerson

Survey question:

In the emerging LTC claim incidence experience since the onset of COVID-19, what have you observed?

LTC morbidity – Claim incidence

In the emerging LTC claim incidence experience since the onset of COVID-19, what have you observed?

Select the response that best describes your company's experience.

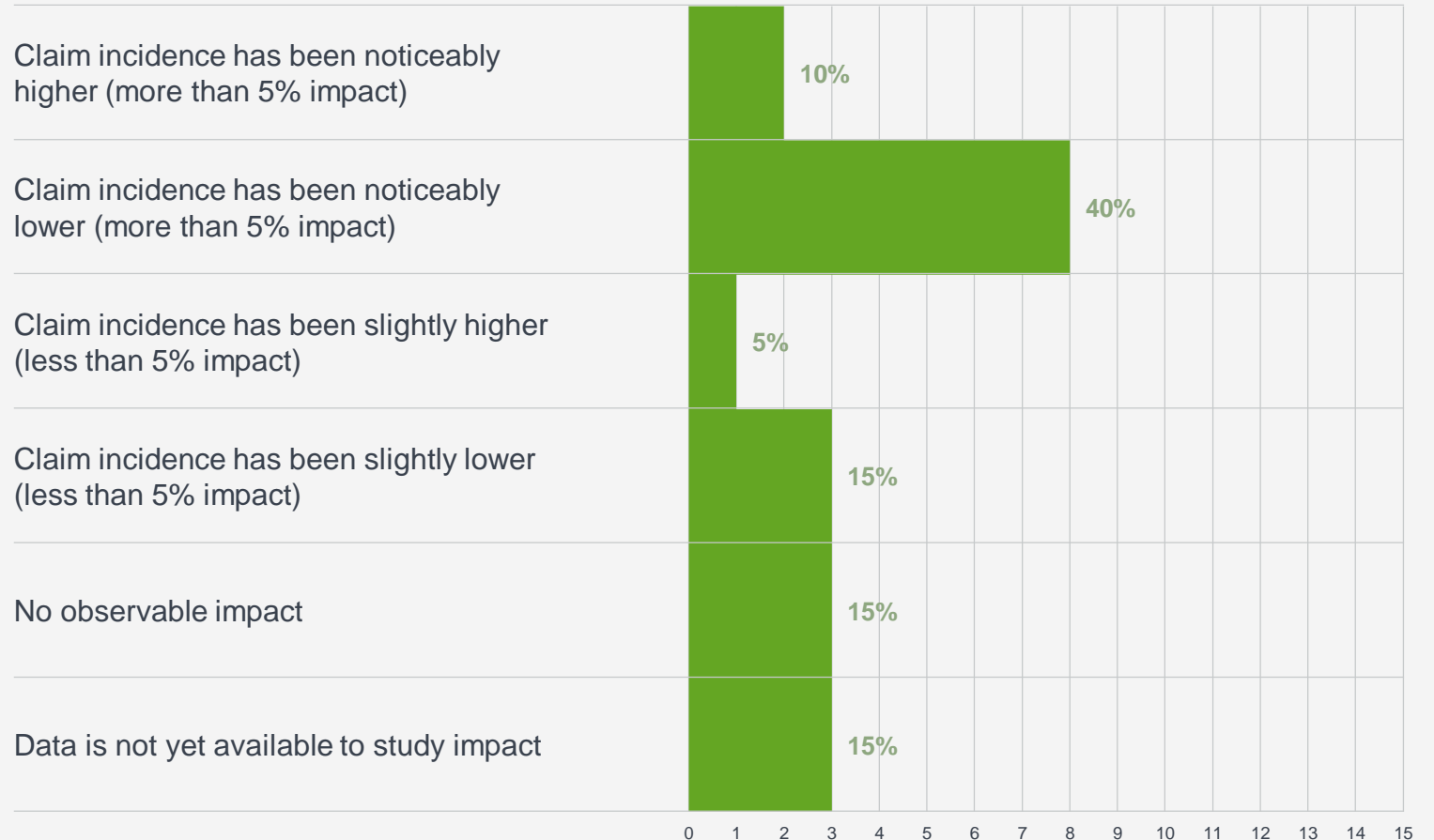
Question addresses the directional impact on claim incidence.

Key observations

- Majority of the respondents have seen lower claim incidence, with a strong response indicating more than 5% impact.
- A few respondents observed higher claim incidence.
- Nearly a third of the respondents had no observable impact or indicated that data is not yet available.

Items for investigation

- If there is a “Hush and Rush” how long will it persist, and will there be pent-up demand?
- Have companies studied impact by attained age or other characteristics?
- Impact on IBNR?



Survey question:

In the emerging LTC claim utilization experience since the onset of COVID-19, what have you observed?

LTC morbidity – Claim utilization

In the emerging LTC claim utilization experience since the onset of COVID-19, what have you observed?

Select the response that best describes your company's experience.

Question addresses the directional impact on claim utilization

Key observations

- Majority of respondents had no observable impact or indicated that data is not yet available.
- Some respondents indicated lower claim utilization.
- No respondents indicated claim utilization has been higher.

Items for investigation

- Will claim situs mix changes impact utilization?

Claim utilization has been noticeably higher (more than 5% impact)

0%

Claim utilization has been noticeably lower (more than 5% impact)

5%

Claim utilization has been slightly higher (less than 5% impact)

0%

Claim utilization has been slightly lower (less than 5% impact)

20%

No observable impact

30%

Data is not yet available to study impact

45%

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Survey question:

Have you observed any other impacts of COVID-19 on LTC morbidity?

LTC morbidity – Other impacts

Have you observed any other impacts of COVID-19 on LTC morbidity?

Select the multiple responses if consistent with your company's experience.

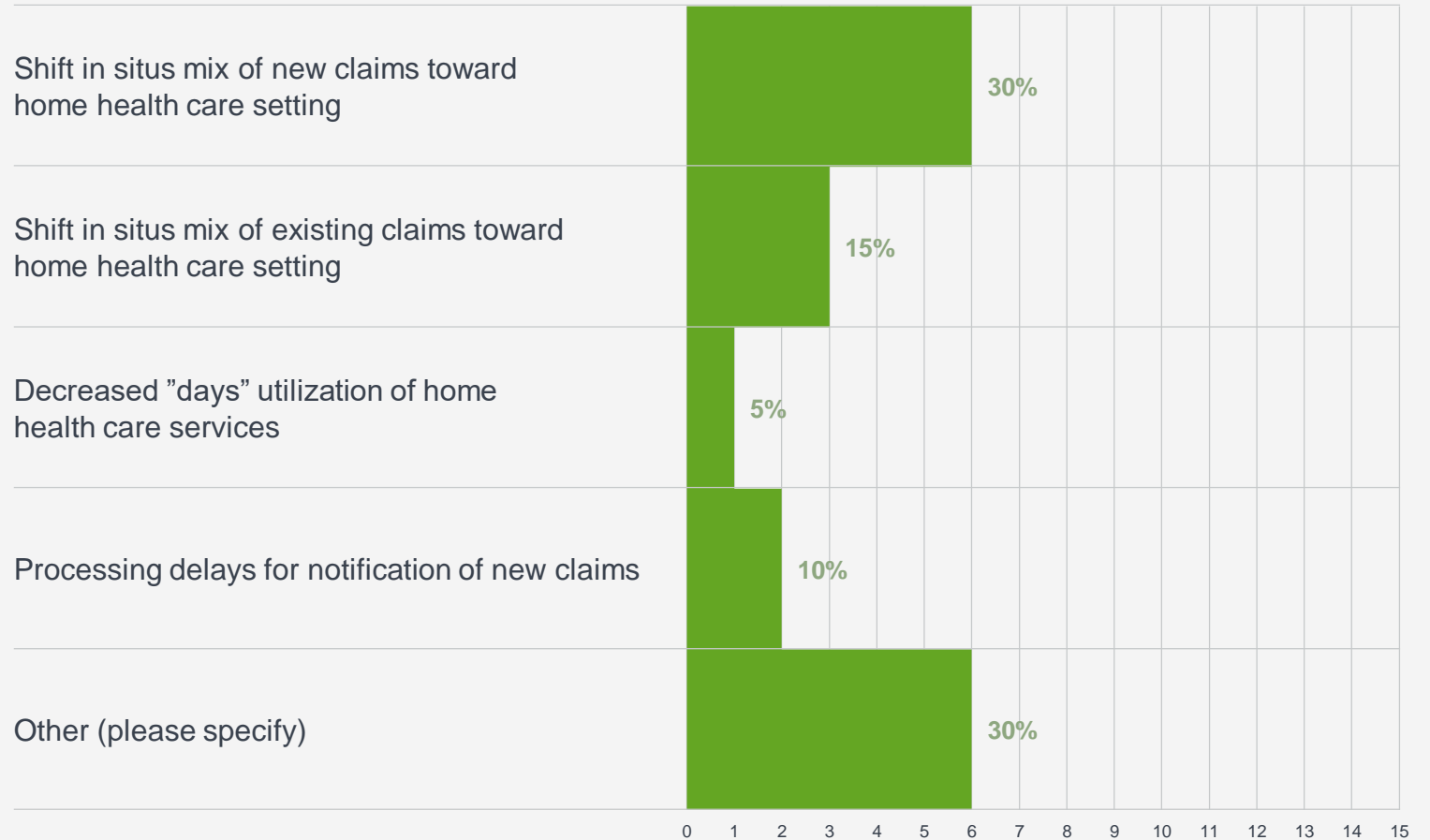
Question addresses other possible impacts on morbidity

Key observations

- Respondents indicated a shift in claims towards home health care settings – especially for new claims.
- Other responses indicated delays in notifications of new claims, medical record processing delays, and claim approval rates being higher due to suspension of face-to-face assessments.

Items for investigation

- Impact of claim adjudication changes on IBNR and other claim reserves.
- How pronounced is claim situs shift and is it temporary or more permanent?





Liability sensitivities

Robert Eaton

Survey question:

As part of year-end 2020 reserve testing, what additional mortality sensitivities might you include as a result of COVID-19?

Mortality sensitivities during year-end testing

Liability sensitivities

As part of year-end 2020 reserve testing, what additional mortality sensitivities might you include as a result of COVID-19?

Select multiple responses if consistent with your company's plans.

Key observations

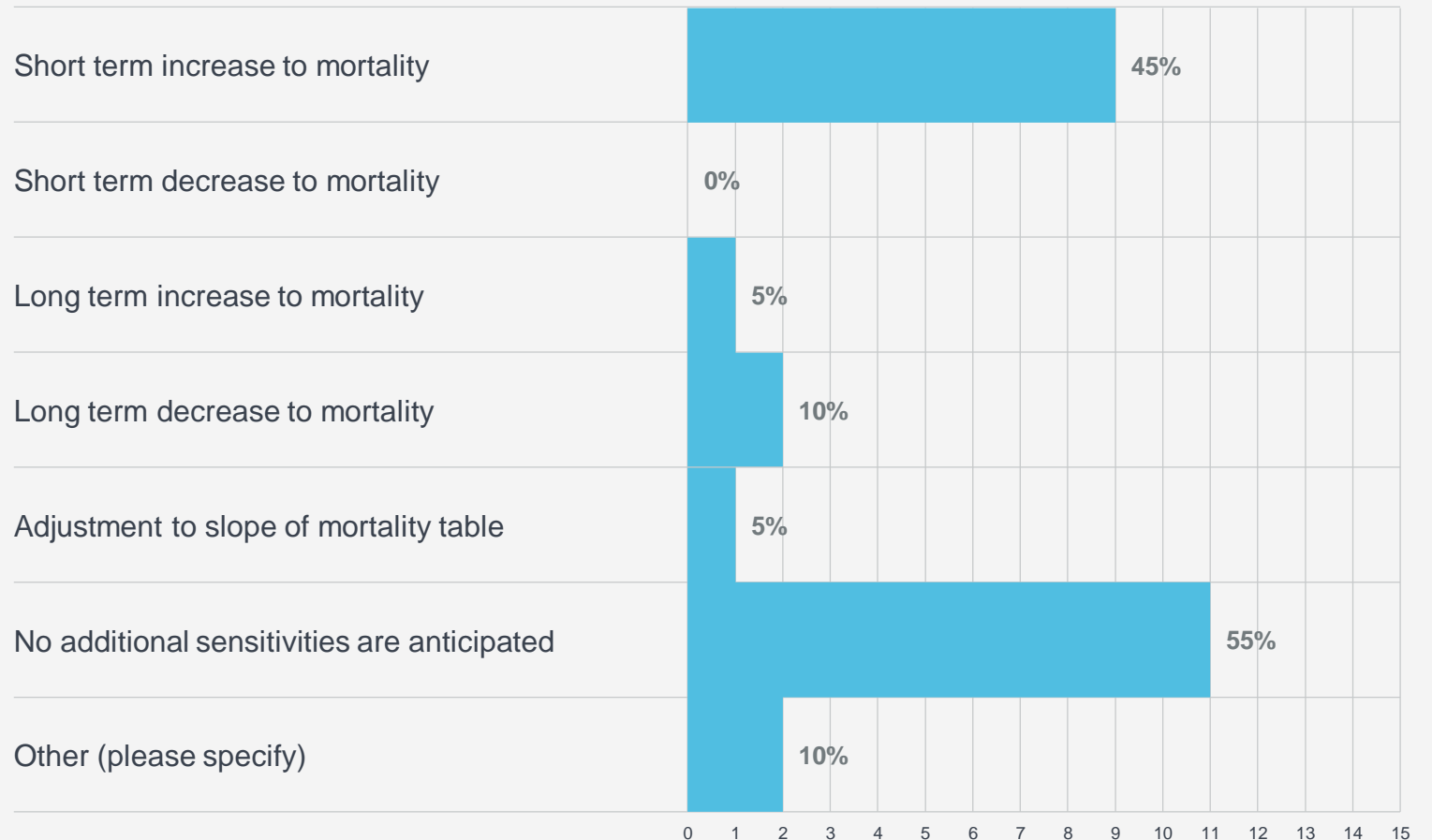
- Higher mortality is conservative
 - May not be useful for reserve testing sensitivities

Known increases to short-term mortality

Conservation of mortality

Other responses

- Increase, followed by decrease
- Modeling issues prevent mortality sensitivities



Survey question:

As part of year-end 2020 reserve testing, what additional morbidity sensitivities might you include as a result of COVID-19?

Morbidity sensitivities during year-end testing

Liability sensitivities

As part of year-end 2020 reserve testing, what additional morbidity sensitivities might you include as a result of COVID-19?

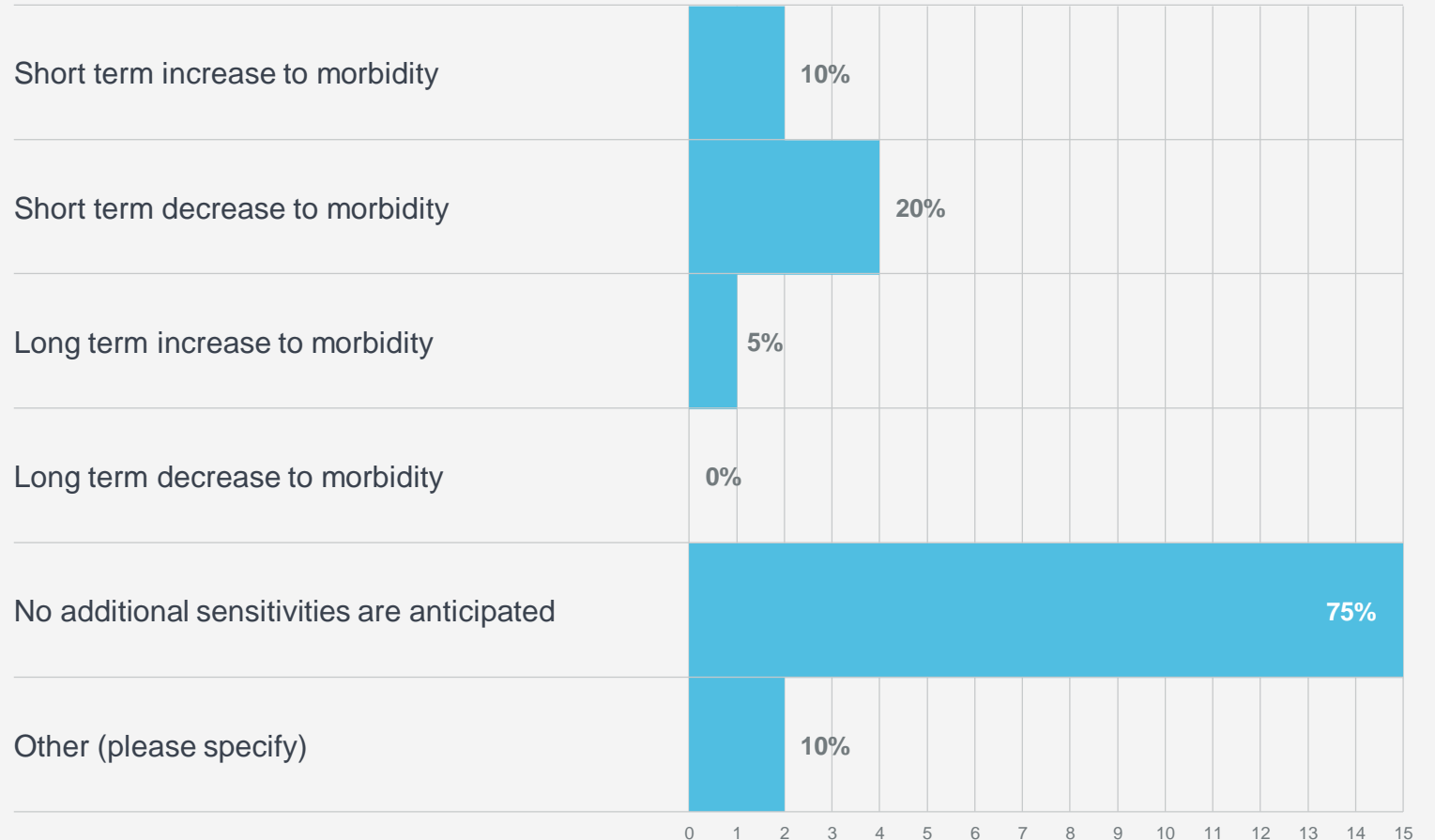
Select multiple responses if consistent with your company's plans.

Key observations

- A handful of companies testing short-term decreases and increases to morbidity
- Future pandemics not anticipated
 - Potential risk of accelerated morbidity

Other responses

- Modeling catch-up over 3 years to revert to long-term average morbidity
- Modeling short term decrease followed by pent-up demand release (similar to some health care pandemic models)



Survey question:

As part of year-end 2020 reserve testing, how would you plan to model additional morbidity sensitivities as a result of COVID-19?

Modeling morbidity sensitivities

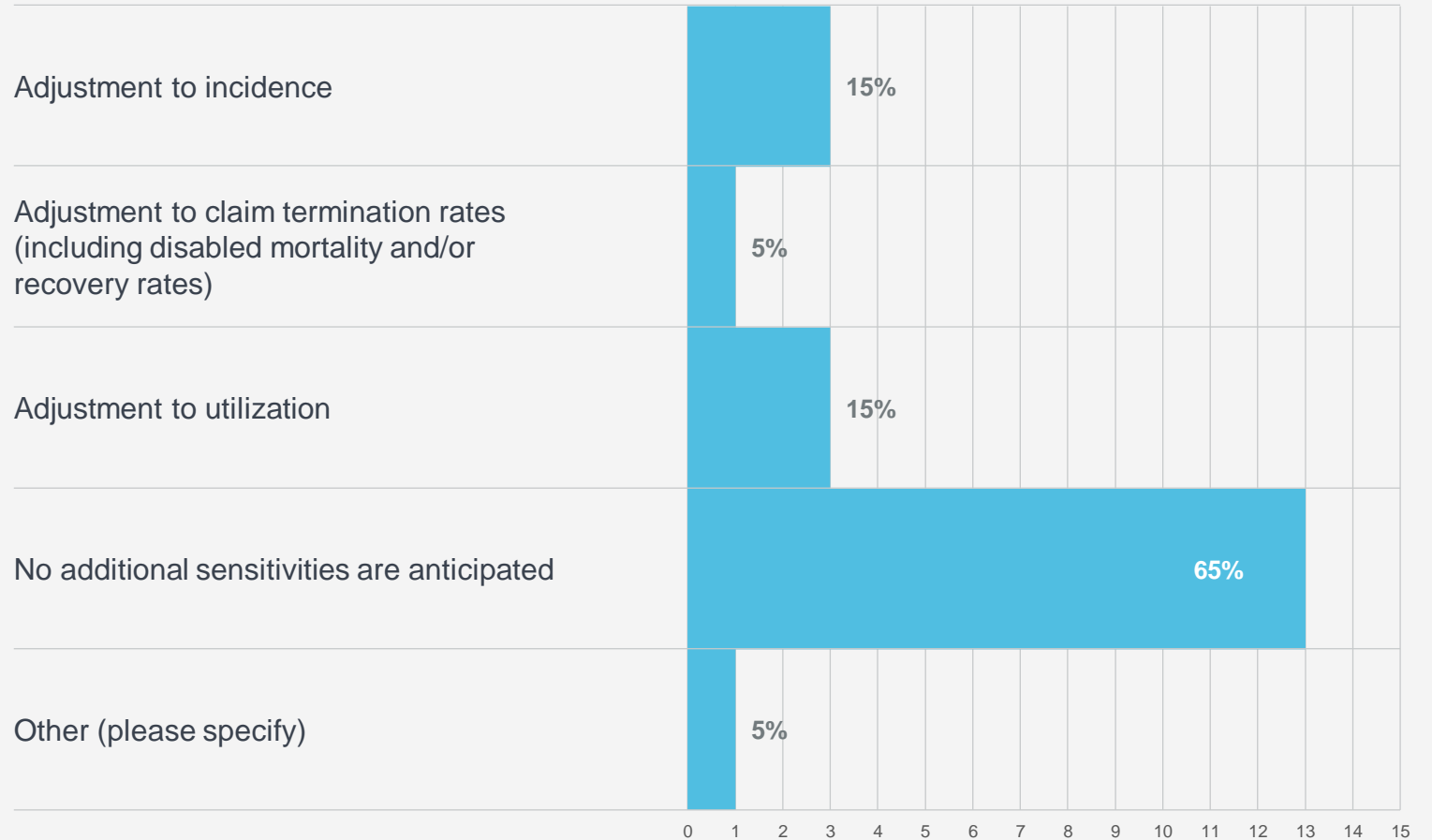
Liability sensitivities

As part of year-end 2020 reserve testing, how would you plan to model additional morbidity sensitivities as a result of COVID-19?

Select multiple responses if consistent with your company's plans.

Key observations

- A few carriers using incidence and utilization sensitivities
- Carriers using a claims cost model may adjust full claims cost
- Utilization sensitivities could be impacted by:
 - Site of care selection
 - Economic variables



Interest rate sensitivities

Jim Stoltzfus

Survey question:

With respect to Cash Flow Testing (CFT) at year-end 2020, what does your company plan to do?

LTC Cash Flow Testing

Plans for 2020 interest scenarios

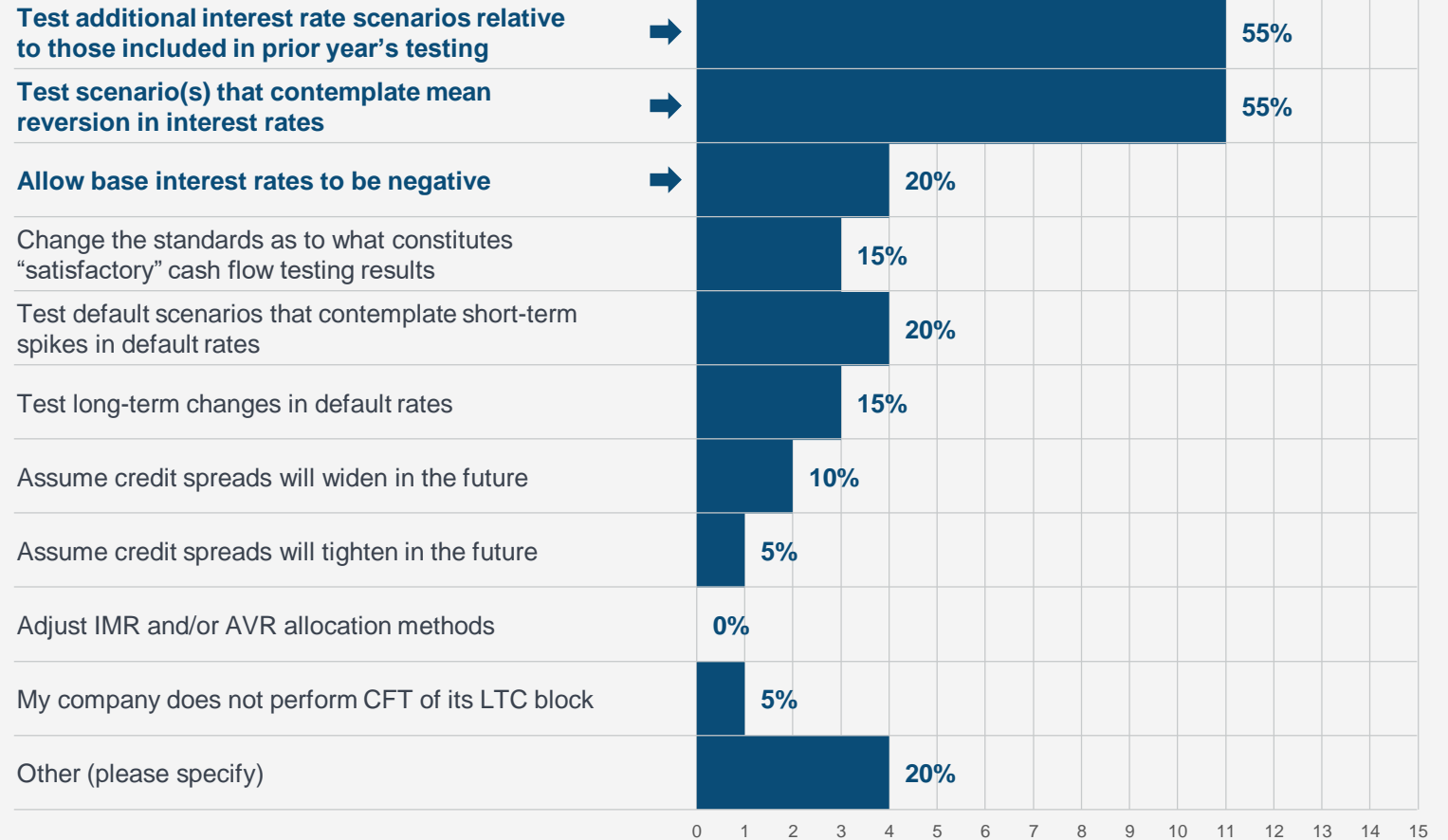
With respect to Cash Flow Testing (CFT) at year-end 2020, what does your company plan to do?

Select all that apply:

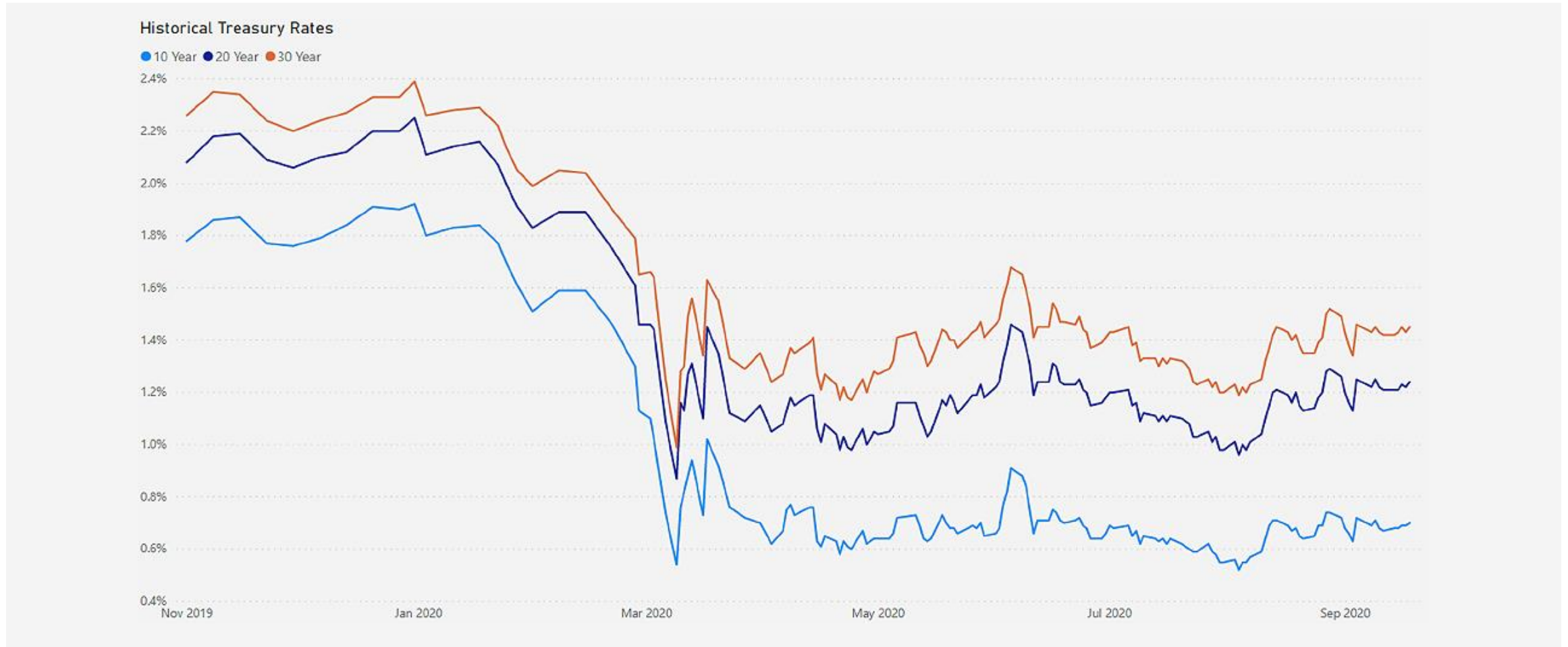
Question addresses initial plans for Cash Flow Testing of LTC blocks.

Key observations on interest rates

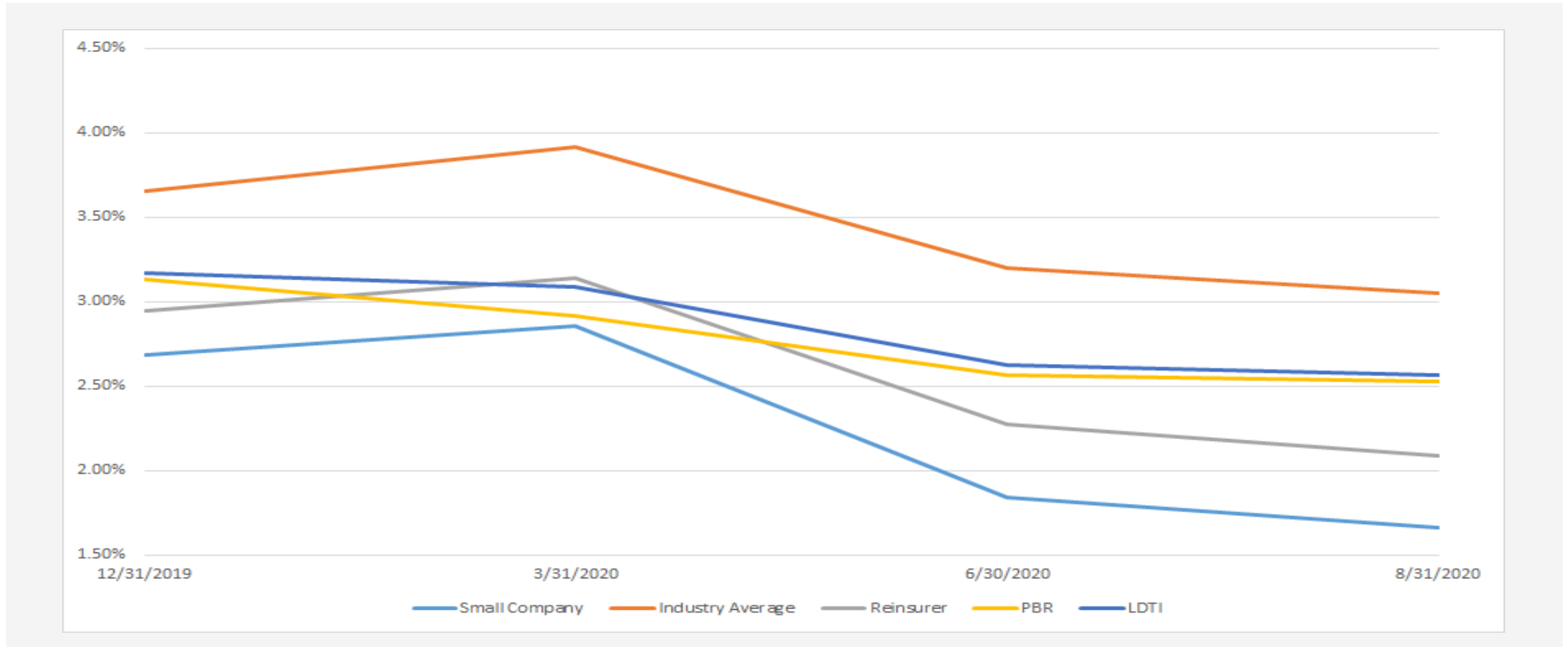
- More than half of respondents plan to test additional interest scenarios with the same number including scenarios with mean reversion of interest rates.
- 20% plan to allow negative rates.
- A couple of respondents suggest it is too early to tell.



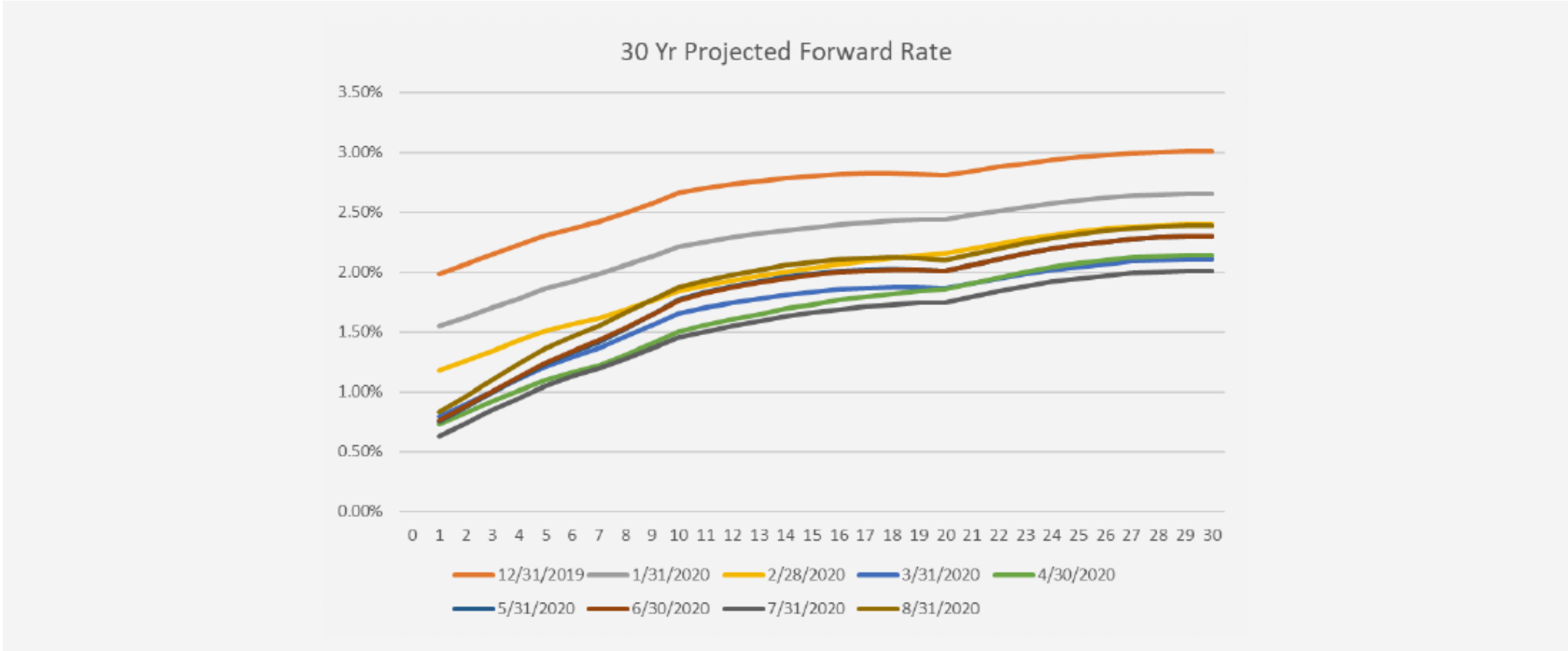
Treasury rates – 2020



Sample new money rates – 2020



Treasury forward rates – 2020



LTC Cash Flow Testing

Plans for 2020 default scenarios

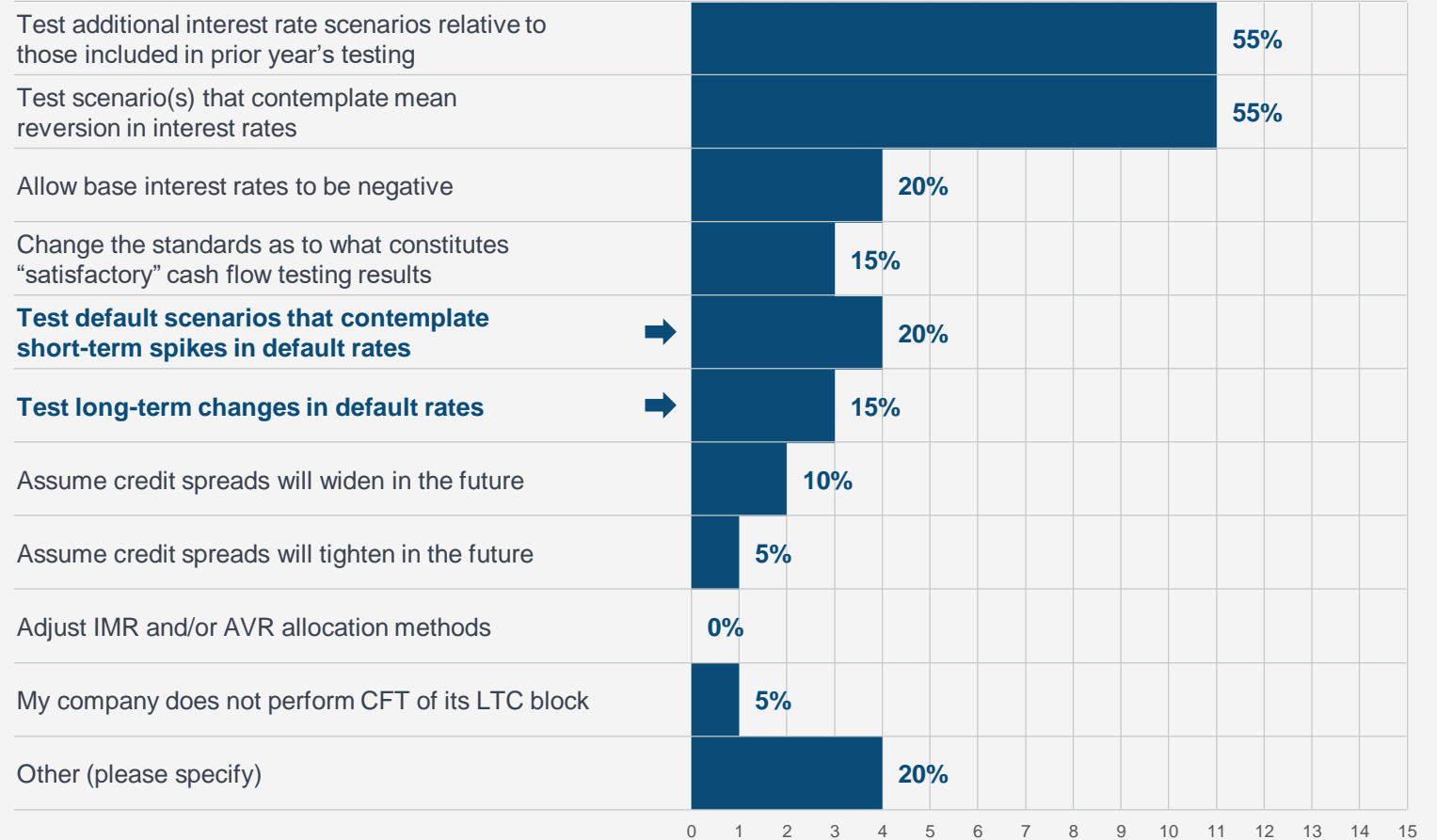
With respect to Cash Flow Testing (CFT) at year-end 2020, what does your company plan to do?

Select all that apply:

Question addresses initial plans for Cash Flow Testing of LTC blocks.

Key observations on default rates

- A few respondents plan to test additional default scenarios
- 20% plan to test a short-term spike in defaults.
- 15% plan to test changes to long term default rates.
- A couple of respondents suggest it is too early to tell.

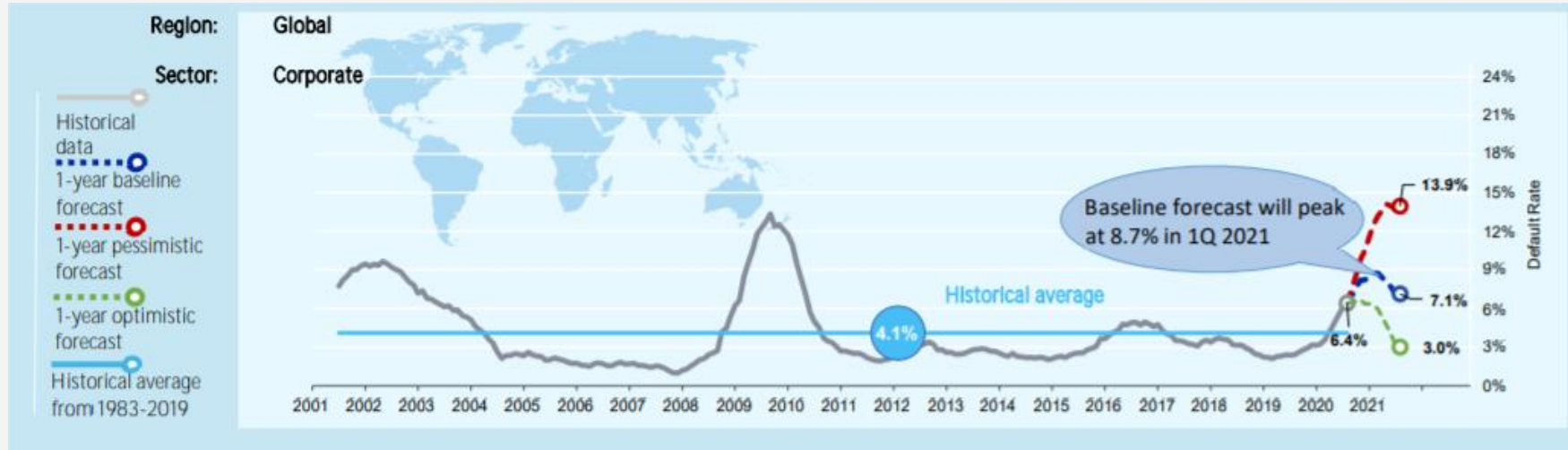


Moody's speculative grade defaults

Actual and 2021 projected

Exhibit 2

Global default rate will peak at 8.7% in Q1 2021 before declining to 7.1% by next August



Macroeconomic assumptions

3-month period ending in:

Baseline scenario

Pessimistic scenario

Optimistic scenario

Unemployment rate* (%):

Nov 2020 Feb 2021 May 2021 Aug 2021

8.7 8.7 7.8 7.6

10.9 12.4 12.6 12.9

8.5 8.3 7.5 7.1

HY spread* (bps):

Nov 2020 Feb 2021 May 2021 Aug 2021

536 577 489 450

1,302 1,149 871 730

462 490 406 392

*These U.S. rates are three-month averages.

Source: Moody's Investors Service

Default comments

Actual and 2021 projected

Exhibit 16

Trailing 12-month speculative-grade default rate baseline forecasts by issuer type

	9/30/2020	10/31/2020	11/30/2020	12/31/2020	1/31/2021	2/28/2021	3/31/2021	4/30/2021	5/31/2021	6/30/2021	7/31/2021	8/31/2021
Bond & loan	8.4%	7.9%	8.2%	8.5%	8.8%	9.4%	9.7%	9.3%	8.1%	7.9%	7.4%	8.1%
Bond only	6.5%	7.2%	7.5%	7.5%	7.9%	8.2%	8.1%	7.9%	7.4%	6.8%	6.1%	5.7%
Loan only	7.8%	8.7%	9.9%	10.2%	10.4%	10.3%	10.4%	9.8%	9.9%	9.6%	9.0%	9.4%

Source: Moody's Investors Service

Default comments

Rating agencies

- Moody's – Speculative Grade Defaults expected to peak at 212% of historical average in 2021. Recovery is slower.
- S&P – Speculative Grade Defaults expected to rise to 12.5% in 2021 which is almost 300% of pre-COVID-19 levels. Wide range of possibilities depending on resurgence, vaccine, stimuli, etc.
- S&P – Recovery will vary by industry but expected to last into 2023.
- S&P – Recovery path will be rocky and uneven. May depend on future government stimulus packages.
- S&P – Corporate borrowers have incurred more debt. Concerns about high leverage and potential for insolvency are increasing.
- S&P – Potential downgrades climbed to record high and above 2009 levels and is over double pre-COVID-19 level.

LTC Cash Flow Testing

Plans for 2020 credit spread scenarios

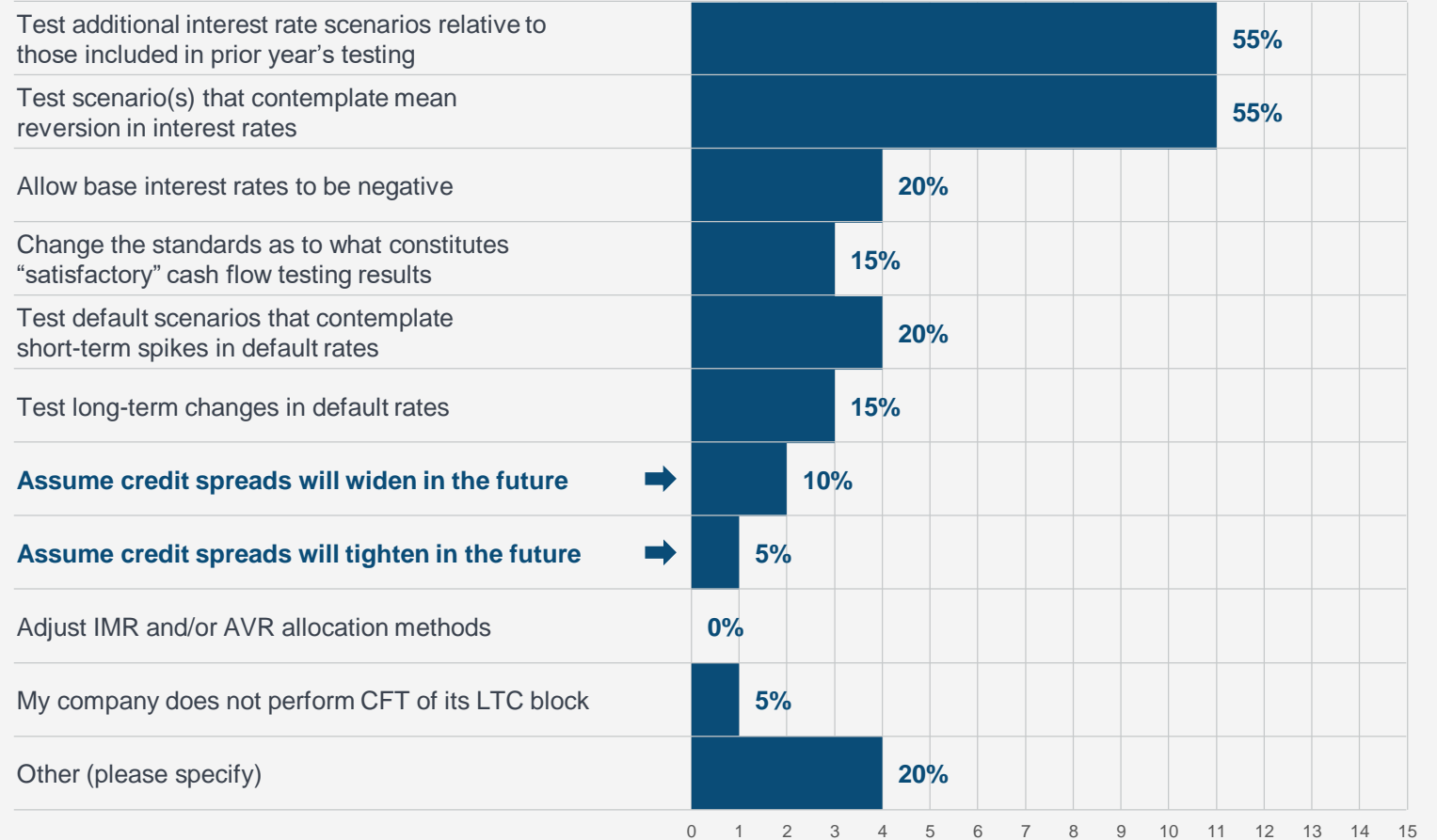
With respect to Cash Flow Testing (CFT) at year-end 2020, what does your company plan to do?

Select all that apply:

Question addresses initial plans for Cash Flow Testing of LTC blocks.

Key observations on spreads

- A couple of respondents plan to assume widening or tightening of credit spreads in the future.
- A couple of respondents suggest it is too early to tell.



Current credit spreads – 2020

Comparison of Historical Credit Spreads

Corporate Spreads* - 5 Year: AA, A, BBB, BB

AA_5_BFV AA_5 A_5_BFV A_5 BBB_5_BFV BBB_5 BB_5_BFV BB_5



Corporate Spreads* - 10 Year: AA, A, BBB, BB

AA_10_BFV AA_10 A_10_BFV A_10 BBB_10_BFV BBB_10 BB_10_BFV BB_10



Corporate Spreads* - 20 Year: AA, A, BBB, BB

AA_20_BFV AA_20 A_20_BFV A_20 BBB_20_BFV BBB_20 BB_20_BFV BB_20



Corporate Spreads* - 30 Year: AA, A, BBB, BB

AA_30_BFV AA_30 A_30_BFV A_30 BBB_30_BFV BBB_30 BB_30_BFV BB_30



1/1/2000 9/25/2020



*Jumps exist in graphs in mid-June 2009, as only "BFV" (Bloomberg Fair Value, now discontinued) rates were available until this date. Spreads shown on or after 6/19/2009 were developed using the current methodology.

LTC Cash Flow Testing

Plans for 2020 other considerations

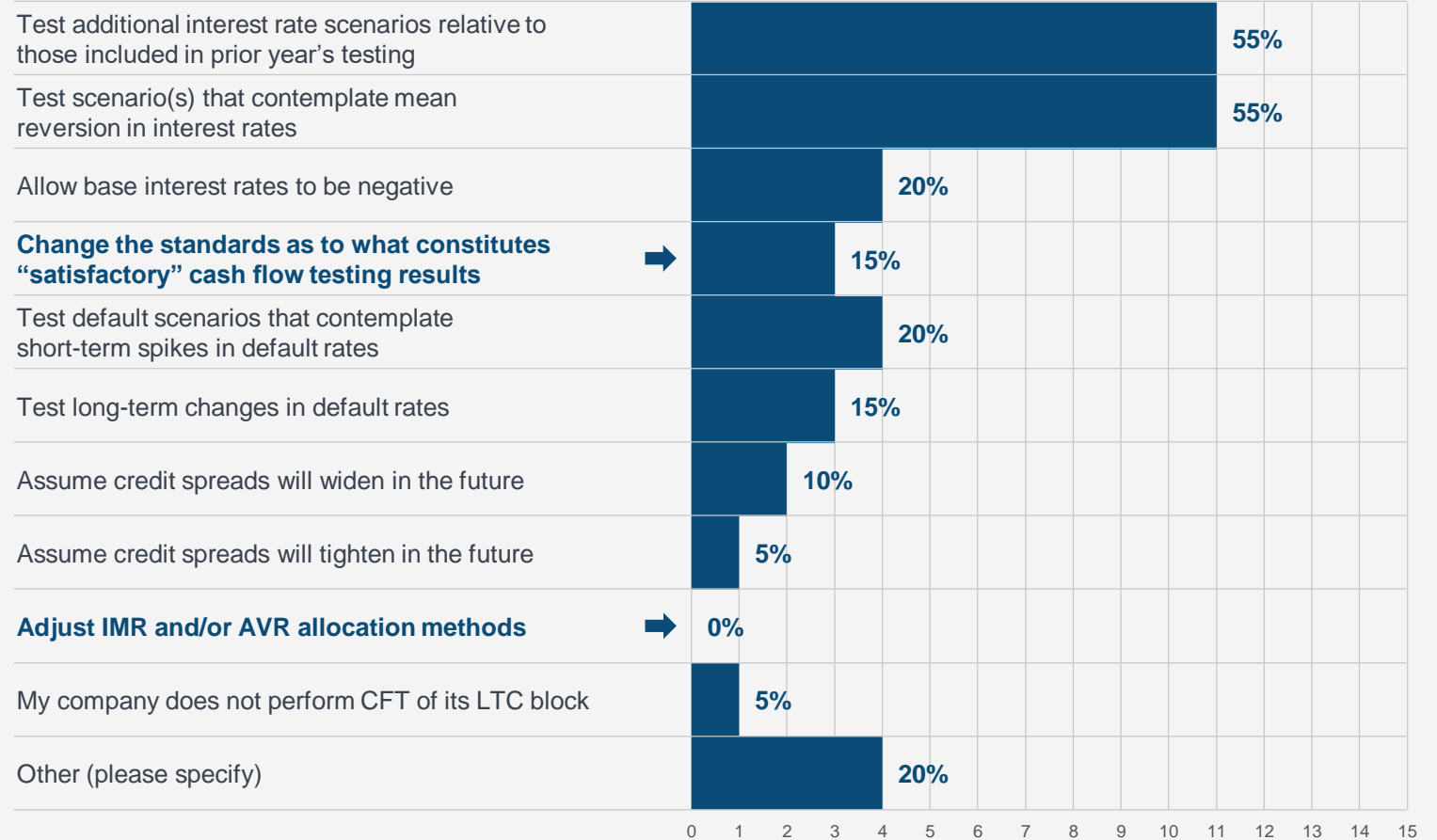
With respect to Cash Flow Testing (CFT) at year-end 2020, what does your company plan to do?

Select all that apply:

Question addresses initial plans for Cash Flow Testing of LTC blocks.

Other key observations

- A couple of respondents plan to change the standard for what constitutes “satisfactory” CFT results. No details were provided as to what changes were being contemplated.
- No respondents plan to change their approach on IMR/AVR allocation.
- A couple of respondents suggest it is too early to tell.



Hypothetical comparison of CFT results

Compare 9/30/2019 CFT to current 2020 CFT reflecting new money rate change only

This block shows large decline in CFT results due to new money rate change.

Hypothetical Cash Flow Testing for LTC LOB

Present value of after-tax profits (in millions)

Scenario	As of 9/30/2019	As of 8/31/2020	Change
Level	41.9	7.1	(34.7)
Rising	179.0	164.4	(14.5)
Up-down	101.0	75.5	(25.6)
Pop-up	157.2	140.3	(16.9)
Falling	(2.4)	(44.1)	(41.7)
Down-up	20.8	(17.2)	(38.0)
Pop-down	(3.6)	(45.6)	(42.0)
Forward	65.1	34.1	(31.1)

Survey question:

With respect to Gross Premium Reserve testing at year-end 2020, what does your company plan to do?

LTC Gross Premium Reserve testing

Plans for 2020 on interest rates

With respect to Gross Premium Reserve testing at year-end 2020, what does your company plan to do?

Select all that apply:

Question addresses initial plans for GPV testing of LTC blocks.

Key observations on interest rates

- 25% of respondents plan to change the methodology for developing discount rates. No details were provided as to what changes were being contemplated.
- 30% of respondents plan to incorporate mean reversion or rising interest rates.
- A couple of respondents suggest it is too early to tell.

Change the methodology for developing discount rates as in prior years →

25%

Incorporate mean reversion and/or an assumption that interest rates will rise in the future →

30%

Make assumptions that credit spreads will change in the future

15%

Test impact of short-term increase in default rates

15%

Test impact of long-term increase in default rates

10%

Allocate assets to the LTC differently than done in prior years

0%

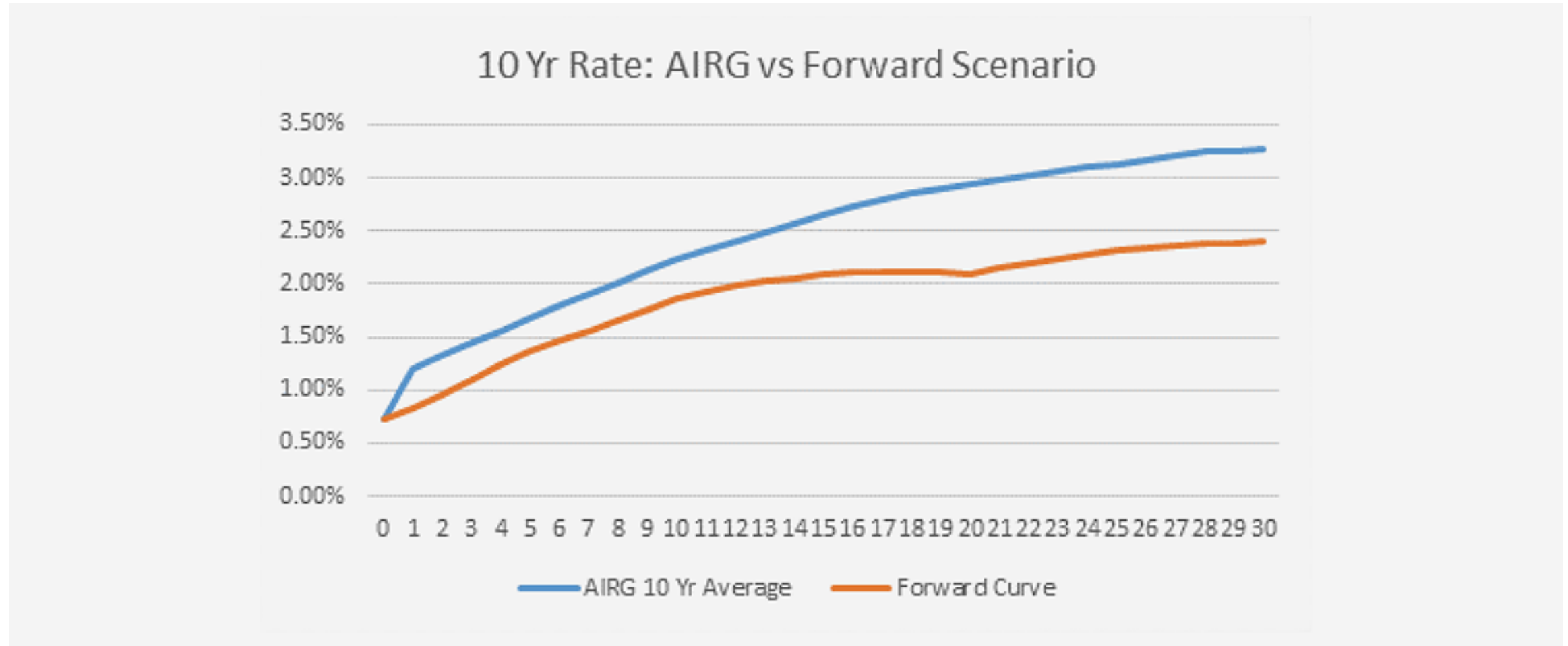
Other (please specify)

30%

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Treasury forward rates – 2020

Below is a comparison of the 10-year treasury rates for AIRG and 10-year treasury forward curve



Mean reversion rates for AIRG scenarios

What IF? If rates follow level, drop or forward curve, what happens to mean reversion rates in stochastic generator?

Academy interest rate generator Development of mean reversion rates

Year	Actual	What If?		
		20-year treasury rates		
		Stay same as 8/31	Drop to 1bps	Follow the 8/31 forward curve
2019	3.50%			
2020	3.50%			
2021		3.25%	3.00%	3.25%
2022		2.75%	2.50%	2.75%
2023		2.50%	2.00%	2.50%
2024		2.50%	1.75%	2.50%
2025		2.50%	1.50%	2.50%

LTC Gross Premium Reserve testing

Plans for 2020 on defaults and credit spreads

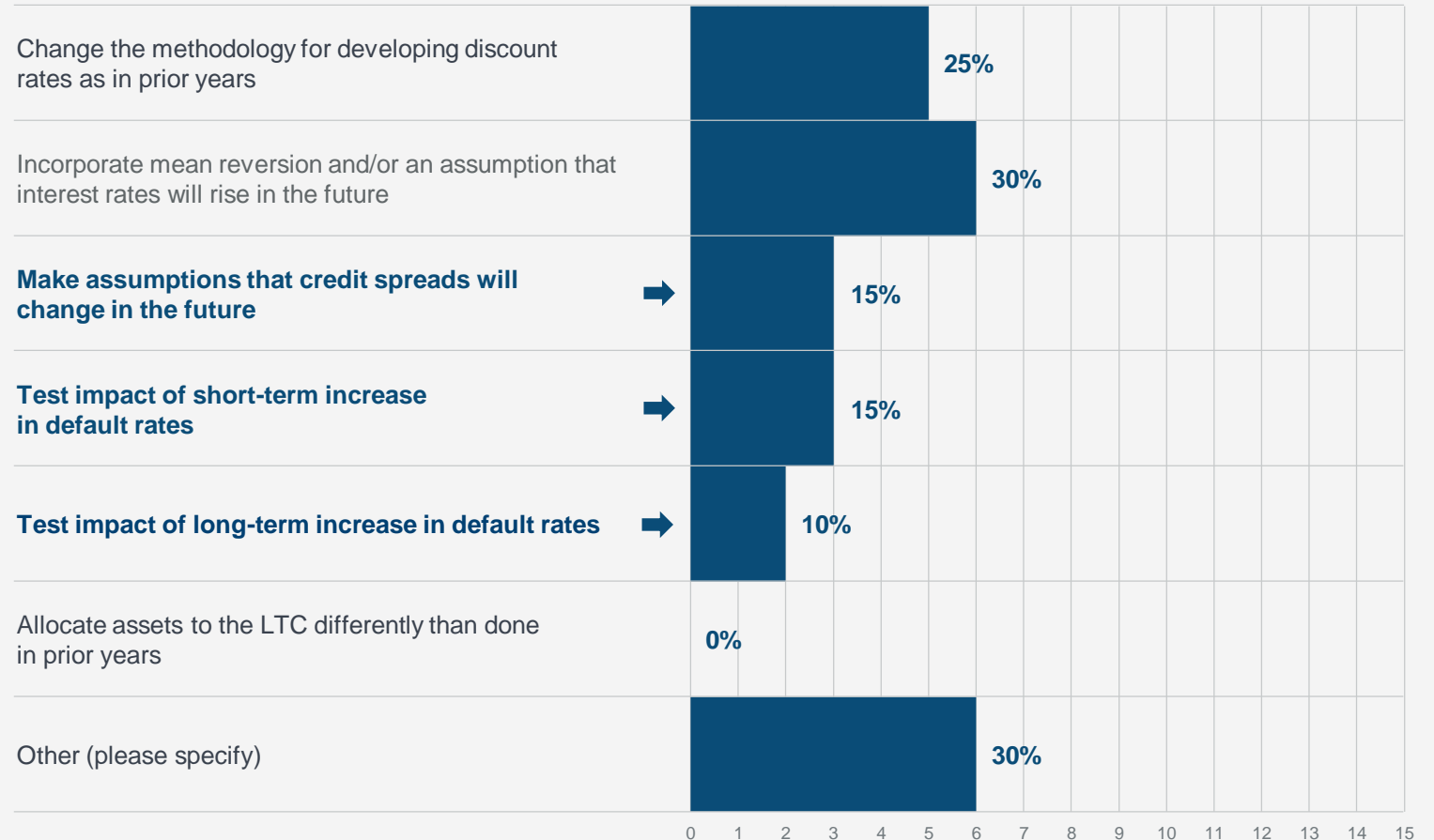
With respect to Gross Premium Reserve testing at year-end 2020, what does your company plan to do?

Select all that apply:

Question addresses initial plans for GPV testing of LTC blocks.

Key observations on default and credit rates

- Similar responses to CFT for defaults and credit spreads.
- A couple of respondents suggest it is too early to tell.



LTC Gross Premium Reserve testing

Other considerations for 2020

With respect to Gross Premium Reserve testing at year-end 2020, what does your company plan to do?

Select all that apply:

Question addresses initial plans for GPV testing of LTC blocks.

Other key observations

- No plans to change asset allocation.
- No plans to change GPV approach
- A couple of respondents suggest it is too early to tell.

Change the methodology for developing discount rates as in prior years

25%

Incorporate mean reversion and/or an assumption that interest rates will rise in the future

30%

Make assumptions that credit spreads will change in the future

15%

Test impact of short-term increase in default rates

15%

Test impact of long-term increase in default rates

10%

Allocate assets to the LTC differently than done in prior years

→ 0%

Other (please specify)

→ 30%

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

What's next?

- Report with detailed results from the survey
 - Sent to survey respondents and webinar attendees
 - Posted to Milliman website
- Continue to monitor experience
 - Insured population impacts
 - General population and LTC population data available

Q&A

If you have a question, please add it to the chat.

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