



Emerging Challenges in Primary Care

18th Annual Conference Series - 2019

A Case Based Approach to Lipids Management: Individualizing Targets and Reducing Risk



Final Live Activities Outcomes Report

Amgen Grant ID IME-186110

February 28, 2020



A Case Based Approach to Lipids Management: Individualizing Targets and Reducing Risk

Participation

3,269* Total Attendees

9 Cities

1,734* Simulcast / Virtual Symposium

2779 certificates issued to date

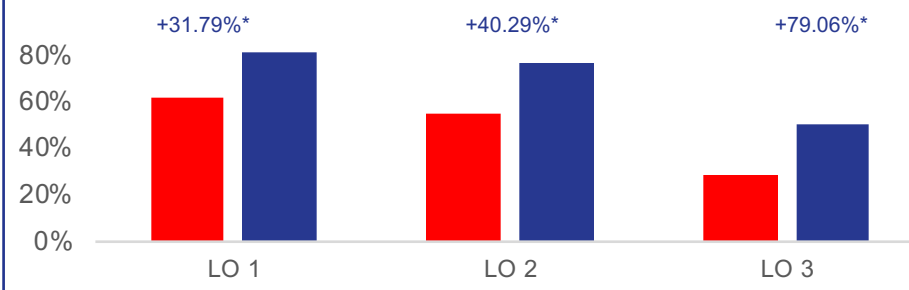
1,535* On Site

This education has the potential to impact **2,502,524** patients with hyperlipidemia on an annual basis.

43,307–52,931 Patients Weekly

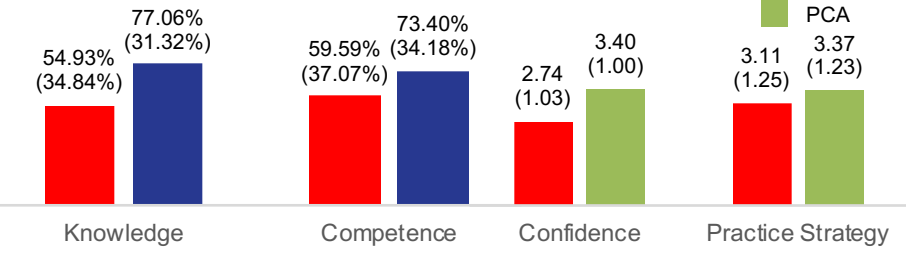
2019 Meeting/Simulcast	Date	Attendees
Miami, FL	4/27/19	188
Birmingham, AL	5/4/19	143
Birmingham, AL Simulcast	5/4/19	526
St. Louis, MO	5/11/19	119
Baltimore, MD	5/18/19	180
Atlanta, GA	6/1/19	211
Atlanta, GA Simulcast	6/1/19	439
Raleigh, NC	6/8/19	139
Tampa, FL	6/15/19	219
Virtual Symposium	6/22/19	769
Denver, CO	8/10/19	111
Anaheim, CA	8/17/19	225
Total		3,269

Learning Gains Across Objectives



- ❖ **LO 1, 32%* Improvement:** Discuss the latest 2018 ACC/AHA Multi-society Guideline on the Management of Blood Cholesterol to reduce the risk of cardiovascular disease
- ❖ **LO 2, 40%* Improvement:** Incorporate current data surrounding non-statin therapy into secondary prevention treatment strategies for patients with the highest cardiovascular risk
- ❖ **LO 3, 79%* Improvement:** Overcome barriers to access for PCSK9 monoclonal antibody therapy

Learning Domain Analysis



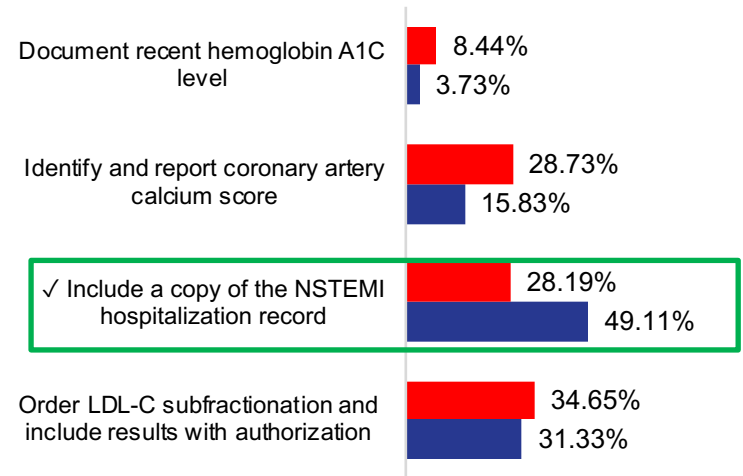
- ❖ Significant gains (8%–43%) were achieved in all learning domains
- ❖ The greatest gains by learning domain were in Knowledge, and driven by items on clinical outcomes and approved indications for PCSK9 inhibitors
- ❖ Low scores at Pre-Test (55% and 60%) in Knowledge and Competence led to moderately high Post-Test scores (77% and 73%) at Post-Test in spite of strong gains
- ❖ Confidence and Practice scores, which were collected only at Pre-Test and PCA, both increased significantly

Persistent Learning Gaps/Needs

Optimizing access to PCSK9 inhibitor therapy

Learners remained challenged on a Competence item related to facilitating approval for PCSK9 inhibitor therapy, at Post-Test.

70 y/o overweight woman, PMH: NSTEMI 6 months ago, hypertension, type 2 diabetes, LDL-C 84 mg/dL on atorvastatin 80 mg and ezetimibe 10 mg, PCSK9 inhibitor prior approval rejected. Which of the following might facilitate prior approval for PCSK9 inhibitor therapy for this patient?



Grant ID: IME-186110



Executive Summary

- ❖ This curriculum discussed the management of risk for cardiovascular disease, particularly using non-statin PCSK9 inhibitor therapy
- ❖ Though learners exhibited strong improvements across the curriculum, moderate Post-Test scores reflect a continuing need for education in this area

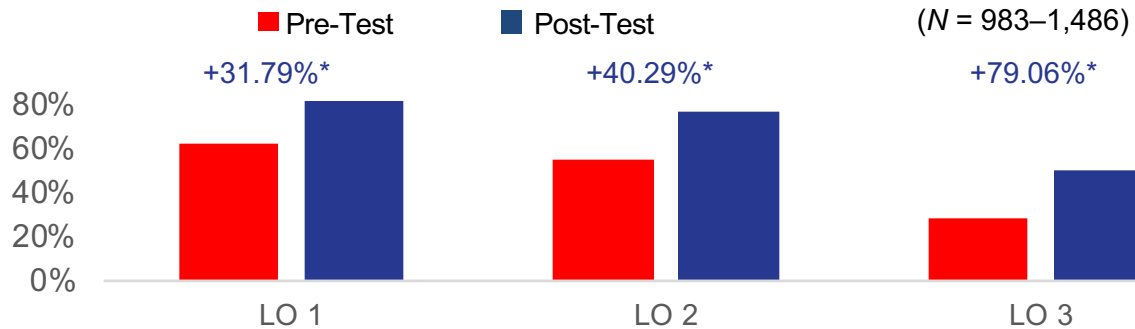
 **3,269***
Total Attendees

 **9 Cities**

 **1,535***
On Site

 **1,734***
Simulcast / Virtual Symposium

Pre to Post-Test Results By Learning Objective



- ❖ **LO 1, 32%* Improvement:** Discuss the latest 2018 ACC/AHA Multi-society Guideline on the Management of Blood Cholesterol to reduce the risk of cardiovascular disease
- ❖ **LO 2, 40%* Improvement:** Incorporate current data surrounding non-statin therapy into secondary prevention treatment strategies for patients with the highest cardiovascular risk
- ❖ **LO 3, 79%* Improvement:** Overcome barriers to access for PCSK9 monoclonal antibody therapy

Impact

- ❖ 3,269 attendees were reached via both online and live formats, with significant gains observed across cohorts and modalities from Pre-test to Post-test. This exceeded the estimated number of learners at 2800.
- ❖ The strongest increases in score for this curriculum corresponded to items discussing guidelines and clinical outcomes of PCSK9 inhibitors
- ❖ An opportunity for further education is presented by low scores on items related to addressing prior approval and other barriers to access for PCSK9 inhibitor therapy

*These numbers represent the total number of attendees, irrespective of assessment participation

Curriculum Patient Impact

In the evaluation, learners (N = 1,908) were asked to report how many patients with hyperlipidemia they see in any clinical setting per week by selecting a range. The resulting distribution of learner responses was then extrapolated to reflect the total number of learners who have attended the onsite and online meetings.

The findings reveal that this education has the potential to impact

2,502,524
patients on an annual basis.

43,307–52,931 patients on a weekly basis

43,307–
52,931

Course Director

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Chief Medical Officer
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Education
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Division of General Internal Medicine
Medical University of South Carolina
Ralph H. Johnson VA Medical Center
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Commercial Support

The Emerging Challenges in Primary Care: 2019 series of CME activities were supported through educational grants or donations from the following companies:

- ❖ Amarin Pharma Inc.
- ❖ Amgen, Inc.
- ❖ AstraZeneca Pharmaceuticals LP
- ❖ Avanir Pharmaceuticals
- ❖ Ferring Pharmaceuticals, Inc.
- ❖ Gilead Sciences, Inc
- ❖ Grifols
- ❖ Novo Nordisk, Inc.
- ❖ Sanofi US and Regeneron Pharmaceuticals

Overview

Learning Objectives

- ❖ Discuss the latest 2018 ACC/AHA Multi-society Guideline on the Management of Blood Cholesterol to reduce the risk of cardiovascular disease
- ❖ Incorporate current data surrounding non-statin therapy into secondary prevention treatment strategies for patients with the highest cardiovascular risk
- ❖ Overcome barriers to access for PCSK9 monoclonal antibody therapy



9 Accredited Live Regional Symposia, Including 2 Live Simulcast - April 27, 2019 – August 17, 2019



1 Accredited Live Virtual Symposium: June 22, 2019



Enduring CME Symposium Webcast

A Case-Based Approach to Lipids Management: Individualizing Targets and Reducing Risk



Faculty



David Montgomery, MD, PhD, FACC
Preventive Cardiologist & Managing Partner
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<https://www.naceonline.com/courses/a-case-based-approach-to-lipids-management-individualizing-targets-and-reducing-risk>

NACE Podcast



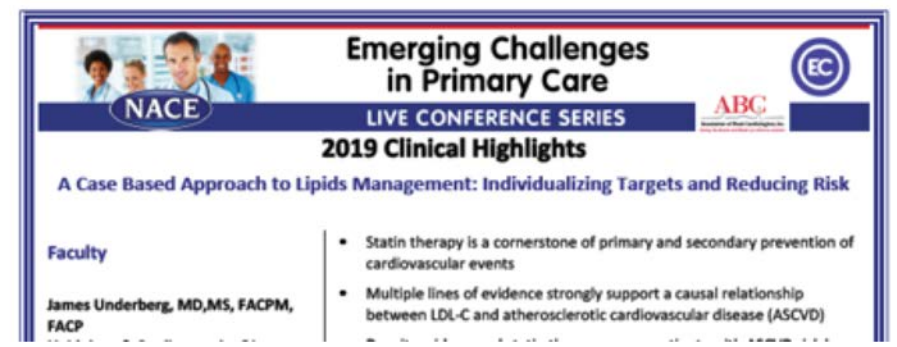
Interview with Dr. James Underberg, MD

<http://www.buzzsprout.com/457981/1627822-the-impact-of-hyperlipidemia-management-on-cardiovascular-risk-reduction-james-underberg-md-ms-facpm-facc>

August 30, 2019

Clinical Highlights eMonograph

eMonograph, containing key teaching points from the CME activity, was distributed 1 week after the meeting to all attendees



Outcomes Methodology

Learning outcomes were measured using matched Pre-Test and Post-Test scores for Knowledge, Performance, Confidence, and practice strategy and across all of the curriculum's Learning Objectives.

Outcomes Metric	Definition	Application
Percentage change	This is how the score changes resulting from the education are measured. The change is analyzed as a relative percentage difference by taking into account the magnitude of the Pre-Test average.	Differences between Pre-Test, Post-Test, and PCA score averages
P value (p)	This is the measure of the statistical significance of a difference in scores. It is calculated using dependent or independent samples t-tests to assess the difference between scores, taking into account sample size and score dispersion. Differences are considered significant for when $p \leq .05$.	Significance of differences between Pre-Test, Post-Test, and PCA scores and among cohorts
Effect size (d)	This is a measure of the strength/magnitude of the change in scores (irrespective of sample size). It is calculated using Cohen's d formula, with the most common ranges of d from 0-1: $d < .2$ is a small effect, $d = .2-.8$ is a medium effect, and $d > .8$ is a large effect.	Differences between Pre-Test and Post-Test score averages
Power	This is the probability (from 0 to 1) that the "null hypothesis" (no change) will be appropriately rejected. It is the probability of detecting a difference (not seeing a false negative) when there is an effect that is dependent on the significance (p), effect size (d), and sample size (N).	Differences between Pre-Test and Post-Test score averages
Percentage non-overlap	This is the percentage of data points at the end of an intervention that surpass the highest scores prior to the intervention. In this report, it will reflect the percentage of learners at Post-Test who exceed the highest Pre-Test scores.	Differences between Pre-Test and Post-Test score averages

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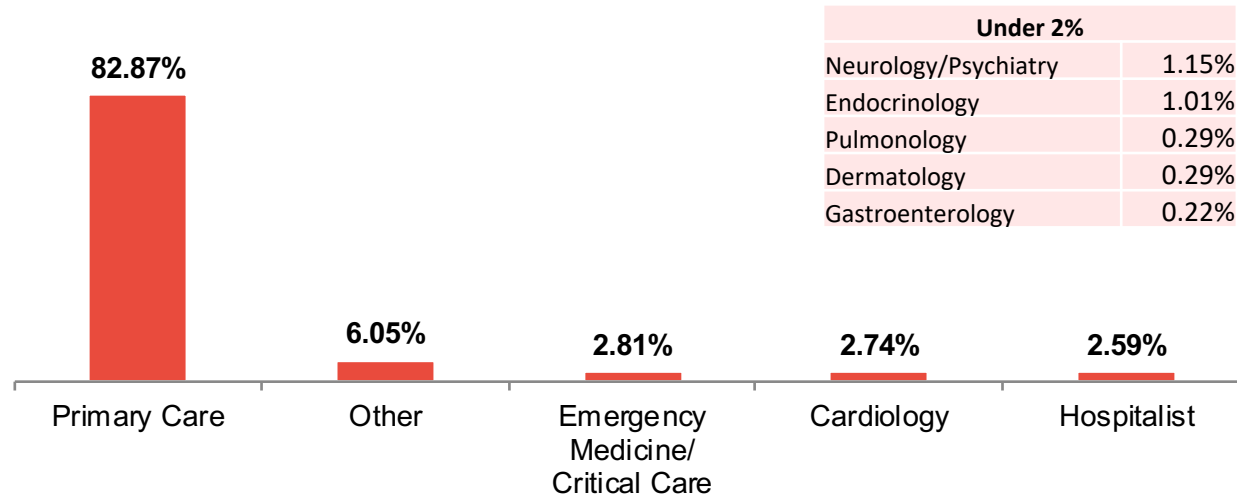
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Level 1: Demographics and Patient Reach

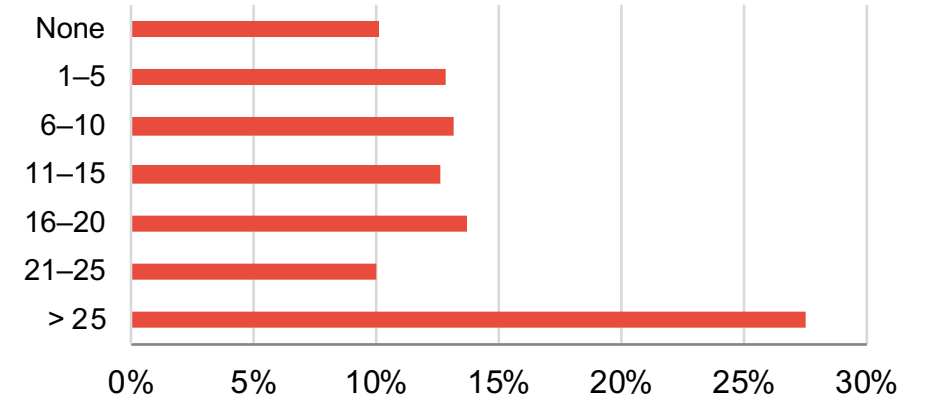
Specialty



Under 2%	
Neurology/Psychiatry	1.15%
Endocrinology	1.01%
Pulmonology	0.29%
Dermatology	0.29%
Gastroenterology	0.22%

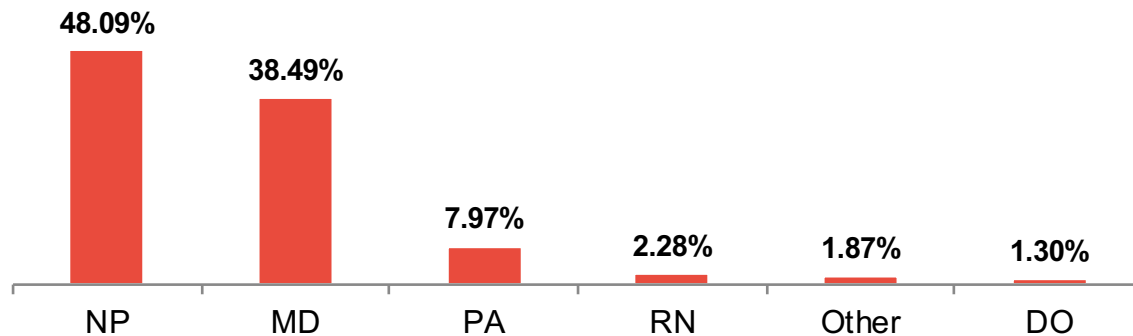
Patient Care Focus: 93%

Patients with hyperlipidemia seen each week, in any clinical setting:

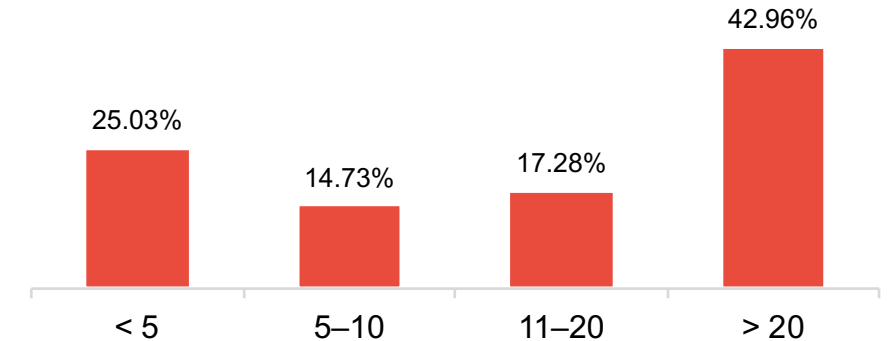


Average number of patients with hyperlipidemia seen each week per clinician: 16

Profession



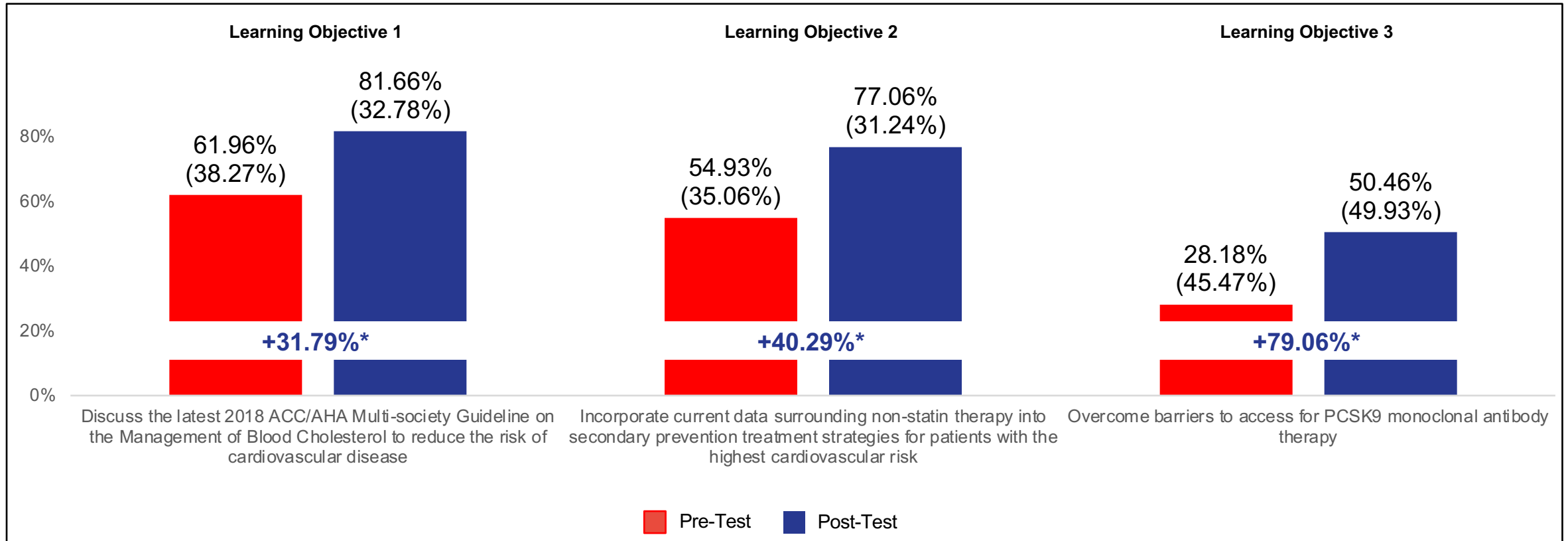
Years in Practice



Level 2-5: Outcomes Metrics

Learning Objectives Analysis

(N = 983–1,486)



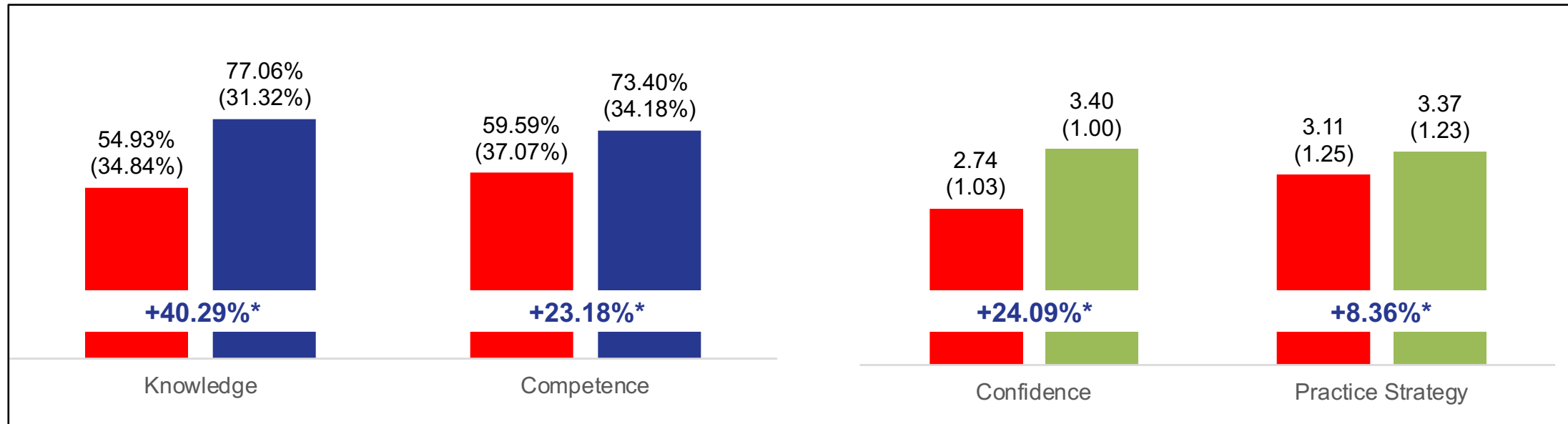
- ❖ Substantial and significant gains (ranging from 32% to 79%) from low Pre-Test averages were achieved on all Learning Objectives
- ❖ The Post-Test average remained low (73%) on the Learning Objective related to barriers to access for PCSK9i monoclonal antibody therapy, despite a substantial gain (79%) from Pre-Test. Other Learning Objectives showed higher Post-Test scores (77% and 82%).

*significant at the $p \leq 0.05$ level

Learning Domain Analysis

Pre-Test Post-Test PCA

(N = 875–1,486)



- ❖ Significant gains (8%–43%) were achieved in all learning domains
- ❖ The greatest gains by learning domain were in Knowledge, and driven by items on clinical outcomes and approved indications for PCSK9 inhibitors
- ❖ Low scores at Pre-Test (55% and 60%) in Knowledge and Competence led to moderately high Post-Test scores (77% and 73%) at Post-Test in spite of strong gains
- ❖ Confidence and Practice scores, which were collected only at Pre-Test and PCA, both increased significantly

Learning Objectives by Professional Cohort

Learning Objective	Nurse Practitioners				Physicians			
	N	Pre-Test	Post-Test	% Change	N	Pre-Test	Post-Test	% Change
Discuss the latest 2018 ACC/AHA Multi-society Guideline on the Management of Blood Cholesterol to reduce the risk of cardiovascular disease	424	60.38% (35.49%)	86.79% (26.64%)	+43.74%*	351	66.24% (35.50%)	82.05% (30.75%)	+23.87%*
Incorporate current data surrounding non-statin therapy into secondary prevention treatment strategies for patients with the highest cardiovascular risk	439	52.05% (33.72%)	78.74% (29.33%)	+51.28%*	370	57.97% (32.53%)	78.92% (29.91%)	+36.14%*
Overcome barriers to access for PCSK9 monoclonal antibody therapy	326	18.71% (39.00%)	46.63% (49.88%)	+149.23%*	269	30.48% (46.03%)	49.07% (49.99%)	+60.99%*

- ❖ Both nurse practitioners and physicians demonstrated substantial and significant improvement on all three curriculum Learning Objectives, from Pre-Test to Post-Test
- ❖ Nurse Practitioners exhibited larger improvements from lower Pre-Test scores on all three Learning Objectives, compared to physicians
- ❖ For both groups, Post-Test scores were low (47% and 49%) on the Learning Objective about overcoming barriers to access for PCSK9 monoclonal antibody therapy

Learning Domains by Professional Cohort

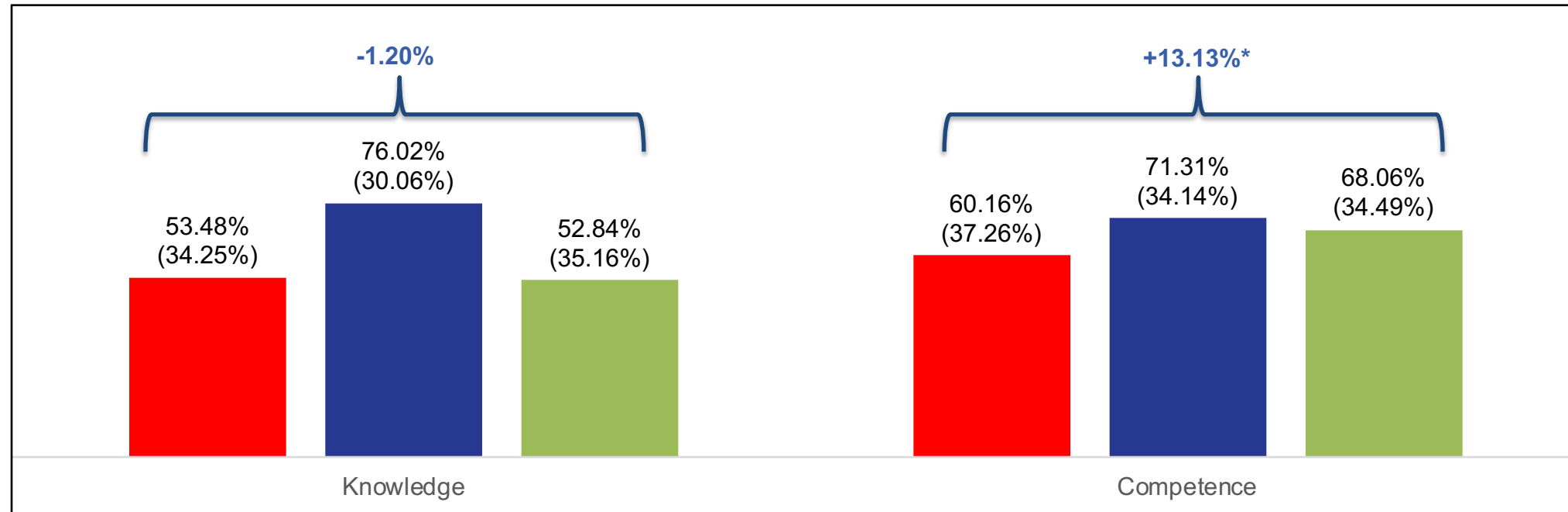
Learning Domain	Nurse Practitioners				Physicians			
	N	Pre-Test	Post-Test	% Change	N	Pre-Test	Post-Test	% Change
Knowledge	439	52.05% (33.72%)	78.74% (29.33%)	+51.28%*	370	57.97% (32.54%)	78.92% (29.92%)	+36.14%*
Competence	416	55.41% (35.20%)	73.20% (32.10%)	+32.11%*	345	61.74% (35.91%)	72.61% (33.99%)	+17.61%*

- ❖ Both nurse practitioners and physicians demonstrated substantial and significant improvement in Knowledge and Competence, from Pre-Test to Post-Test
- ❖ Nurse practitioners exhibited greater improvements in score, from lower Pre-Test scores, compared to physicians
- ❖ For both groups, Post-Test scores were lower (73% and 74%) on case-based Competence questions

4-Week Retention Analysis

Pre-Test Post-Test PCA

(N = 875 – 1,908)



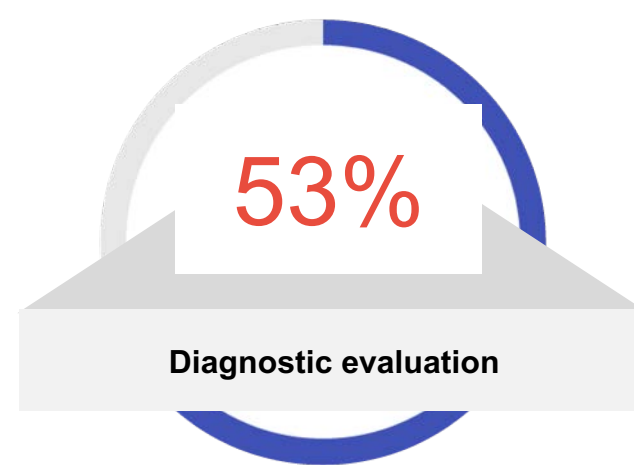
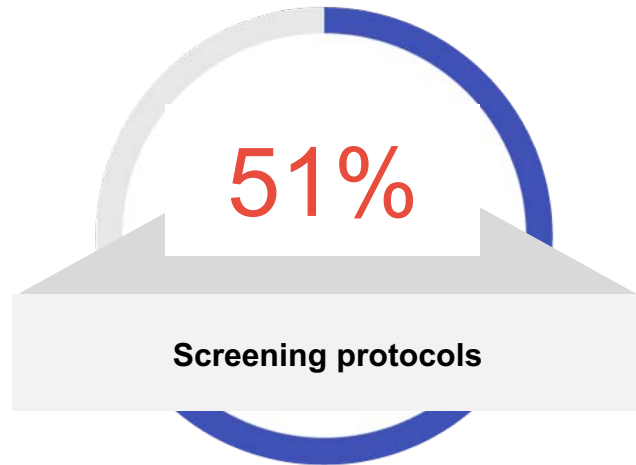
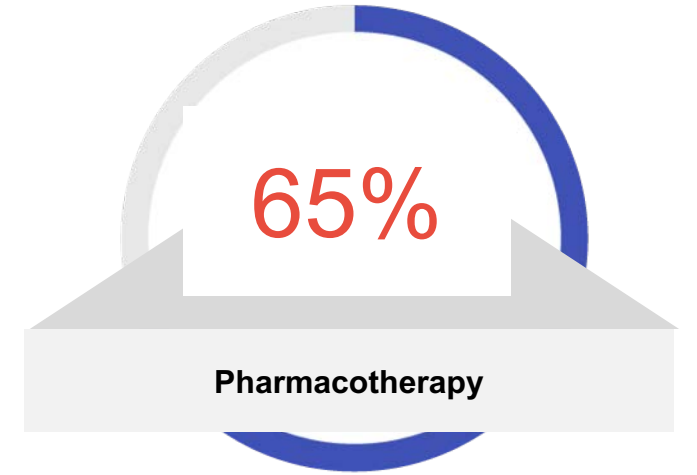
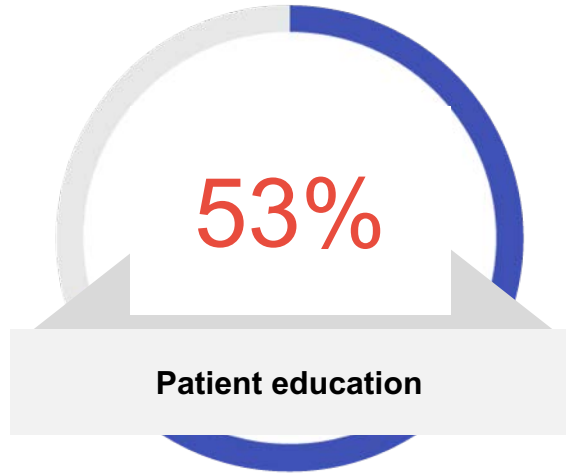
At follow-up:

- ❖ In addition to collecting Confidence and Practice data for the curriculum, the Post Curriculum Assessment (PCA) repeated questions from the Knowledge and Competence domains
- ❖ A statistically significant net gain was measured from Pre-Test to the Post Curriculum Assessment (PCA) in Competence (13%)
- ❖ In both Knowledge and Competence, some decrease in score was measured between Post-Test and PCA, reflecting a need for further reinforcement of case-based content

(4-week Post Assessment)

Please select the specific areas of *skills, or practice behaviors*, you have improved regarding the treatment of patients with hypercholesterolemia since this CME activity. (Select all that apply.)

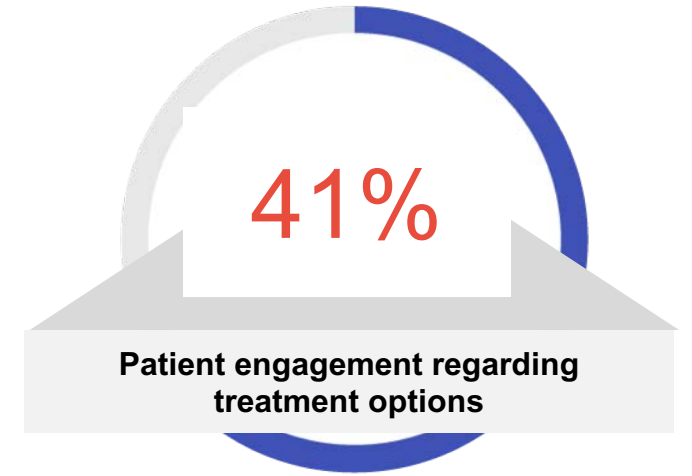
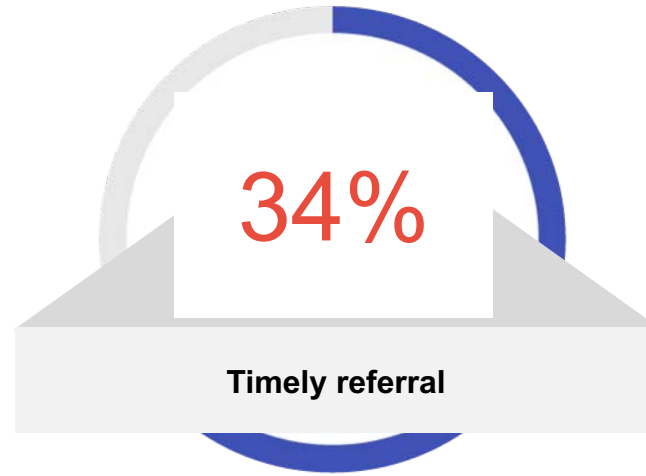
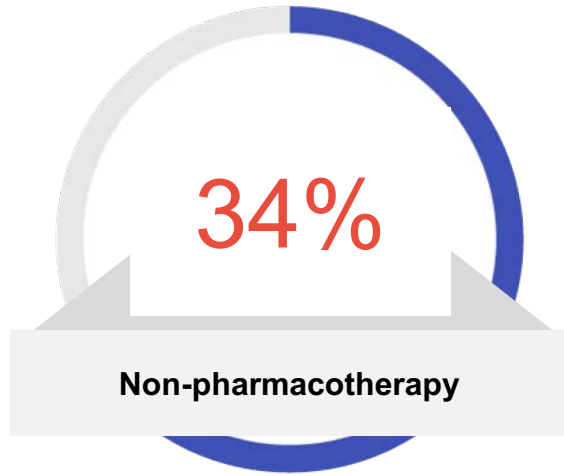
N=875



(4-week Post Assessment)

Please select the specific areas of *skills, or practice behaviors*, you have improved regarding the treatment of patients with hypercholesterolemia since this CME activity. (Select all that apply.)

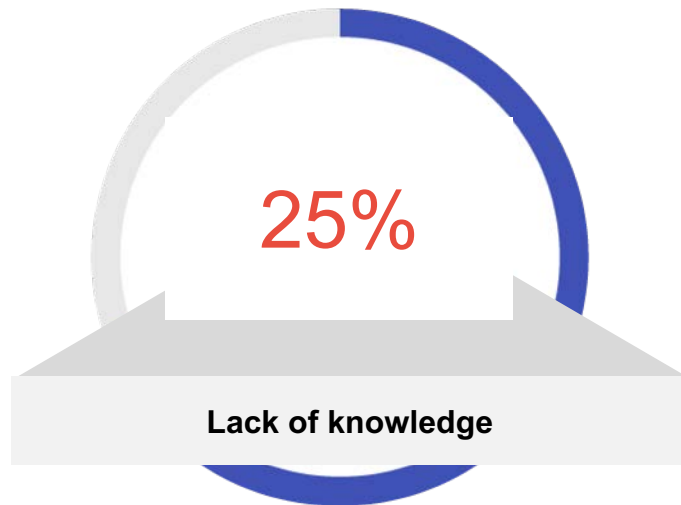
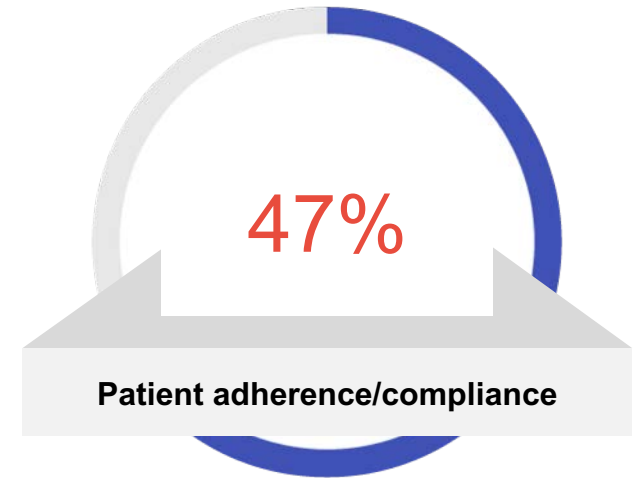
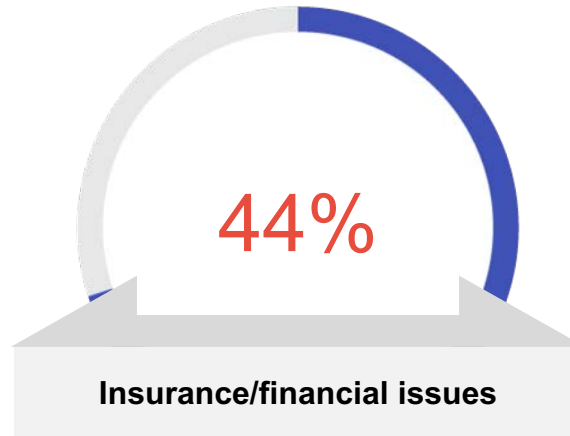
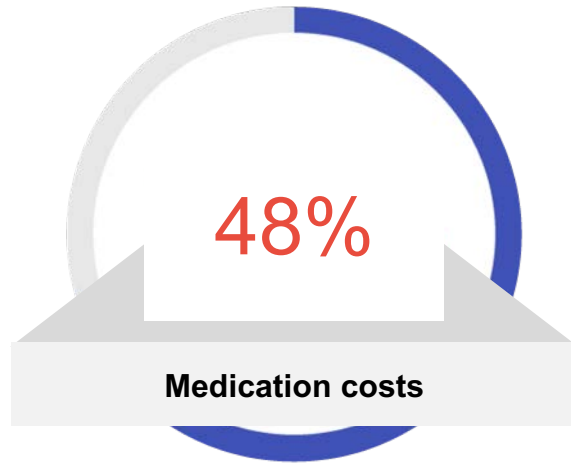
N=875



(4-week Post Assessment)

What specific *barriers* have you encountered that may have prevented you from successfully implementing strategies for patients with hypercholesterolemia since this CME activity? (Select all that apply.)

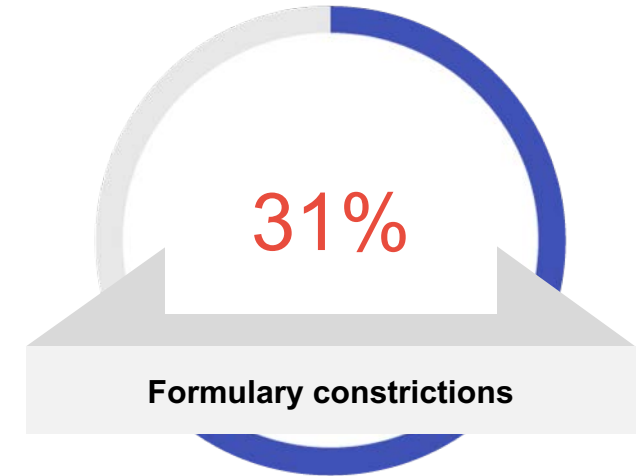
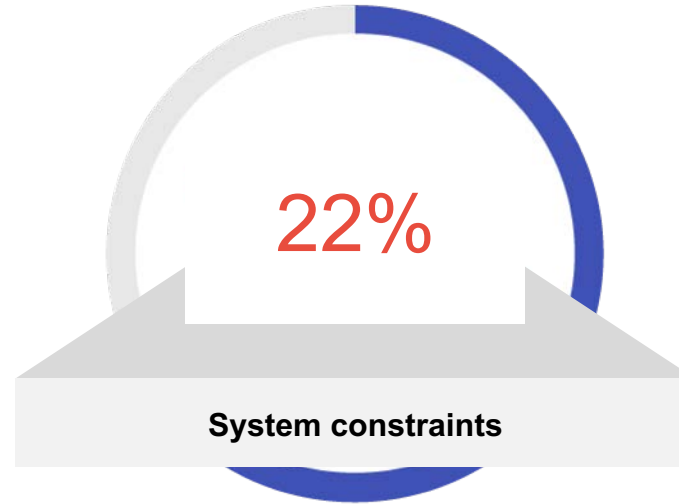
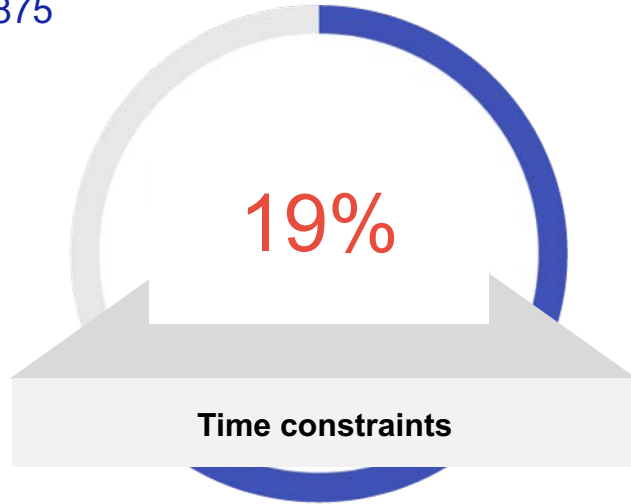
N=875



(4-week Post Assessment)

What specific *barriers* have you encountered that may have prevented you from successfully implementing strategies for patients with hypercholesterolemia since this CME activity? (Select all that apply.)

N=875



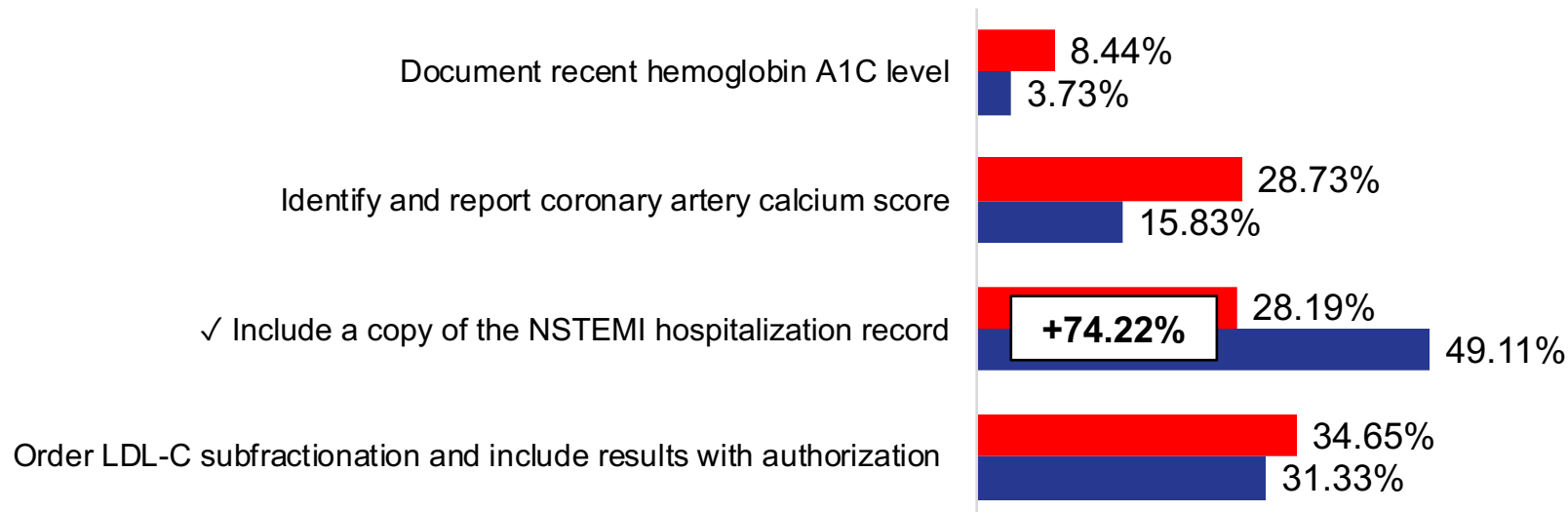
Identified Learning Gap: *Optimizing access to PCSK9 inhibitor therapy*

Despite strong improvements in score on a Competence item related to facilitating approval for PCSK9 inhibitor therapy, learners remained challenged at Post-Test.

70 y/o overweight woman, PMH: NSTEMI 6 months ago, hypertension, type 2 diabetes, LDL-C 84 mg/dL on atorvastatin 80 mg and ezetimibe 10 mg, PCSK9 inhibitor prior approval rejected. Which of the following might facilitate prior approval for PCSK9 inhibitor therapy for this patient?

Results:

- At Post-Test, 49% of learners correctly answered: “Include a copy of the NSTEMI hospitalization record”



Overall Educational Impact

- ❖ Significant improvements (ranging from 8% – 43%) were seen across all learning domains.
 - These improvements were shared by Nurse Practitioners and physicians, though Nurse Practitioners demonstrated stronger improvements compared to physicians on both Knowledge and Competence
- ❖ Strong and significant improvements ranging from 32% to 79% were measured across all Learning Objectives. The strongest increases were on Objectives related to the clinical outcomes and guidelines for prescribing PCSK9 inhibitor therapy
 - The other Learning Objective, about improving access to these therapies and increasing the likelihood of approval, had low scores at Pre-Test (28%) and Post-Test (50%)
- ❖ The analysis of the Knowledge and Competence domains identified a **persistent learning gap related to optimizing access to PCSK9 inhibitor therapy**
 - Pre- and Post-Test scores (28% and 49%) were low on a Competence item presenting the case of a diabetic patient who had previously been rejected approval for PCSK9 inhibitors
 - Despite an improvement of 74%, learners remained challenged on this item at Post-Test, emphasizing an opportunity for ongoing education in this area

Appendix

Learning Objectives Analysis: Live Onsite vs. Live Online Audience

- “Live onsite learners” include only those attending in-person meetings
- ”Live online learners” include those from both the Simulcast and Virtual Symposium

Learning Objective	Live onsite learners				Live online learners			
	N	Pre-Test	Post-Test	% Change	N	Pre-Test	Post-Test	% Change
Discuss the latest 2018 ACC/AHA Multi-society Guideline on the Management of Blood Cholesterol to reduce the risk of cardiovascular disease	1017	64.65% (36.32%)	83.68% (29.57%)	+29.44%*	384	54.82% (41.41%)	76.30% (38.51%)	+39.18%*
Incorporate current data surrounding non-statin therapy into secondary prevention treatment strategies for patients with the highest cardiovascular risk	1051	55.68% (33.36%)	77.31% (30.20%)	+38.85%*	435	53.14% (38.11%)	76.48% (33.88%)	+43.92%*
Overcome barriers to access for PCSK9 monoclonal antibody therapy	740	26.35% (44.05%)	46.22% (49.86%)	+75.41%*	243	33.74% (47.28%)	63.37% (48.18%)	+87.82%*

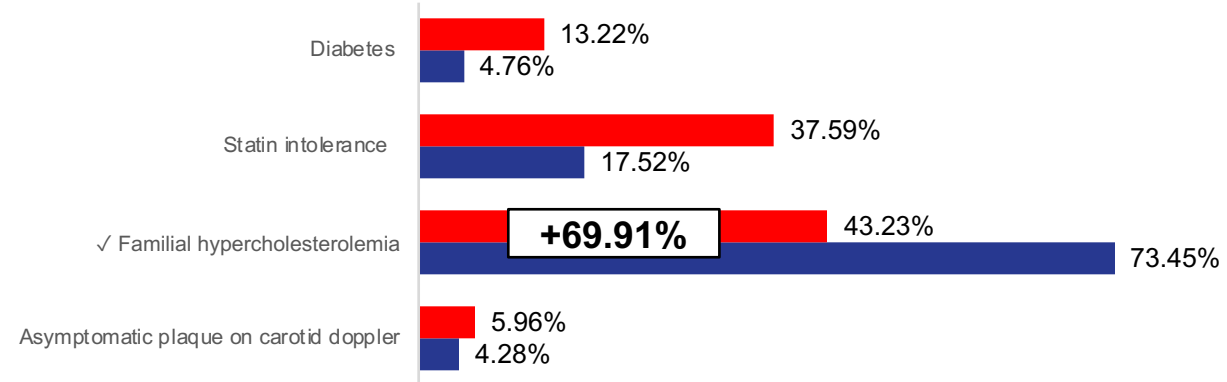
- ❖ Both live onsite and live online learners demonstrated substantial and significant improvement on all three curriculum Learning Objectives, from Pre-Test to Post-Test
- ❖ Online learners exhibited larger improvements from lower Pre-Test scores on all three Learning Objectives, compared to live onsite learners
- ❖ For both groups, Post-Test scores were low (46% and 63%) on the Learning Objective about overcoming barriers to access for PCSK9 monoclonal antibody therapy

Knowledge Items

Pre-Test
Post-Test

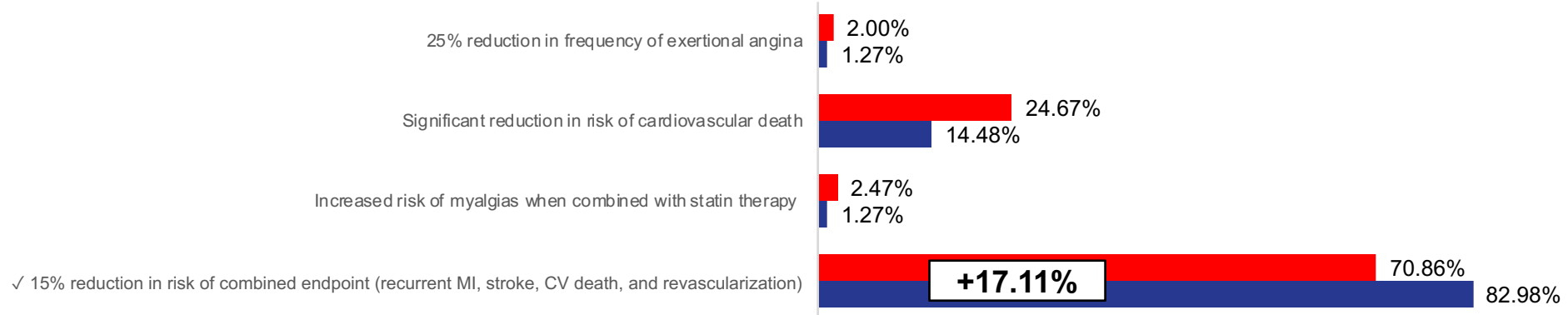
Which of the following is an approved indication for PCSK9 inhibitor therapy in a patient with dyslipidemia?

N = 1,450 – 1,543



Clinical outcomes studies of PCSK9 inhibitors have reported which of the following?

N = 1,297 – 1,492

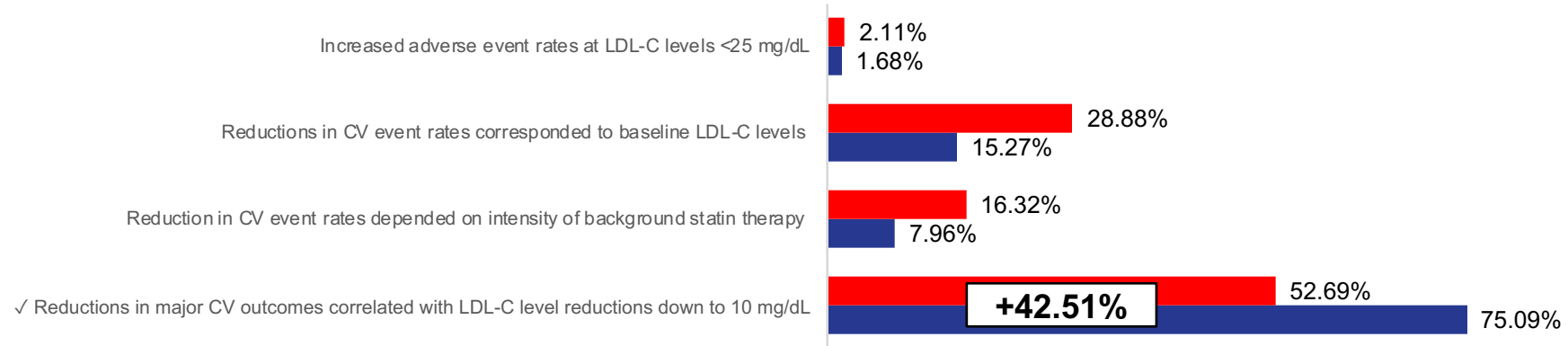


Knowledge Items

Pre-Test
Post-Test

Clinical outcomes studies of PCSK9 inhibitors have reported which of the following?

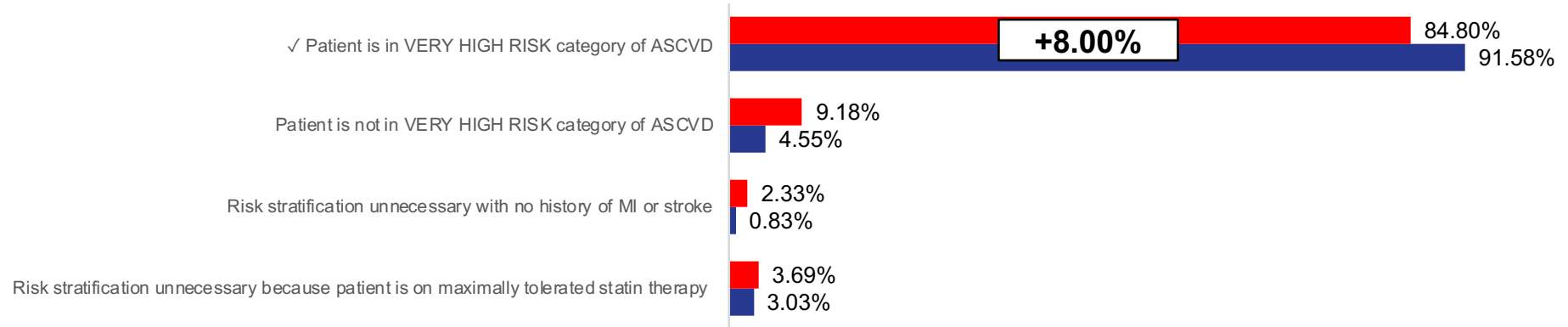
N = 1,281 – 1,369



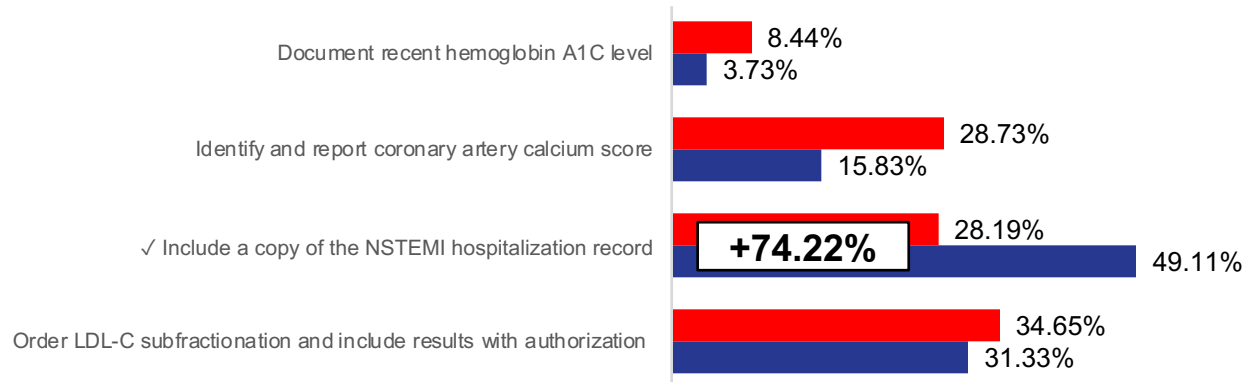
Competence Items

Pre-Test
Post-Test

A 67 y/o man with a history of 3-block claudication with an ABI of 0.7, Smokes 1 pack/day, LDL-C 74 mg/dL Medications: 40 mg rosuvastatin and 10 mg ezetimibe According to the 2018 ACC/AHA guidelines, which of the following is correct? N = 1,319 – 1,329



70 y/o overweight woman, PMH: NSTEMI 6 months ago, hypertension, type 2 diabetes, LDL-C 84 mg/dL on atorvastatin 80 mg and ezetimibe 10 mg, PCSK9 inhibitor prior approval rejected. Which of the following might facilitate prior approval for PCSK9 inhibitor therapy for this patient? N = 1,114 – 1,232

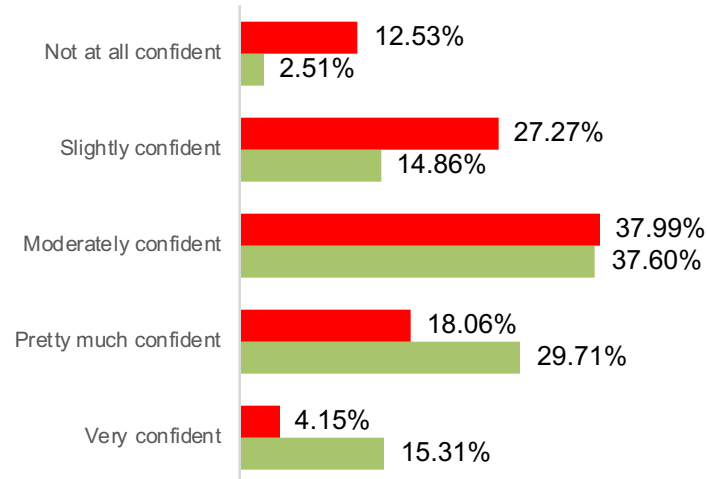


Confidence and Practice Strategy Items

Pre-Test
PCA

Please rate your confidence in your ability to apply the 2018 ACC/AHA blood cholesterol guidelines to the care of your patients:

N = 875 – 1,445



How often do you consider non-statin therapies in high-risk patients not at recommended LDL-C target, despite maximally tolerated statin therapy?

N = 875 – 1,315

