The RightSTEPS Curriculum—Interim Outcomes From a Sequential Blended Learning Initiative

A Report of the HME Program Implementation and Assessment Team[a]

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ABSTRACT

Objective: To improve utilization of guideline-directed optimal medical therapy (OMT) for patients with chronic heart failure (HF) via continuing medical education (CME).

Methods: The sequential, multiyear, blended learning RightSTEPS initiative was developed and implemented starting in 2016, combining online predisposing educational activities with live, face-to-face enabling learned-practice activities and online, on-demand reinforcing activities. The target audience for the initiative was all clinicians who care for patients with chronic HF. The results of pre- and post-activity test questions, post-activity evaluations, and follow-up surveys were compiled on a monthly basis and aggregated for a 6-month interim outcomes report.

Results: Data are reported for CME-certified activities with outcomes data accumulated from January 31, 2017, through October 19, 2017 (reflecting sequenced dissemination of individual activities). As of this interim data cutoff, the predisposing online activities had a total of 9364 readers with 8218 completing the post-test (88%). Of the learners, 69% were prescribers (including nurse practitioners [NPs] and physician assistants [PAs]), and 36% specialized in cardiology. The majority of the 9384 readers/learners had participated in multiple activities, with 56% participating in from 5 to 11 activities. Rates of improvement (ROI), calculated based on comparison of the aggregate percentages of correct pre- and post-test responses respective to each learning objective (LO), ranged from 65% to 98%, indicating variances in the extent of learners' baseline knowledge in selected subject areas prior to engaging in the learning activity. The majority of learners (69%) indicated that they intended to make changes in their clinical practice as a results of the education. Although fewer data are available for the enabling live activities (402 participants; 11/20 meetings), similar patterns of improvement outcomes have been observed.

Conclusions: While there were substantial improvements in knowledge, competence, and practice relative to the objectives of the program, analysis of test items and evaluations demonstrated that further ongoing education is needed to eradicate barriers to the provision of OMT for patients with chronic HF.

BACKGROUND

Although evidence-based strategies recommended in current practice guidelines can improve outcomes for patients with chronic heart failure (HF),[1-3] optimal medical therapy (OMT) remains underutilized in real-world practice.[4-8] Managing chronic HF is a complex clinical challenge, and changing course in any complex endeavor can be difficult. Clinician education on the role of guideline-driven OMT, including appropriate use of both newer and more familiar medications, is a crucial tool in achieving desired outcomes in patients with chronic HF. It is also essential to include patients and caregivers in educational efforts, given the need to reduce variation in self-care, particularly medication adherence and weight monitoring, to complement and support the clinician's ability to implement beneficial changes.

These realities formed the foundation for a curriculum built on evidence-based adult learning (andragogic) principles.[9-12] The underlying principle of this educational program was to ensure that clinicians have the knowledge and skills to independently reduce their performance variation in chronic HF management by prescribing the right drugs, at the right dose, at the right time, for the right patient, with the goal of enhancing patients' quality of life (QoL), reducing the need for hospitalization or readmission, and improving morbidity and mortality in HF.

To this end, the RightSTEPS educational initiative was undertaken by Haymarket Medical Education (HME) and myCME in partnership with the American College of Cardiology (ACC). The program was supported by an educational grant from Novartis Pharmaceuticals Corporation. Given the complexity of the problem, the scope of the initiative, and the desire to develop an integrated curriculum that reflects and fosters the interrelated roles of key stakeholders in HF management, sound andragogic design was informed by input from a variety of physicians, nurse practitioners (NPs), physician assistants (PAs), and nurses, as well as patients and caregivers. A summary of the findings of the Needs Assessment/Gap Analysis is included in **Appendix 1**.

METHODS

Overview of Educational Design

A curriculum consisting of 23 activities for up to 16 total continuing medical education (CME)/continuing nursing education (CNE) credit hours was initiated in June 2016, with activities being delivered sequentially through June 2018. The curriculum combines both online predisposing educational

activities and live, face-to-face enabling learned-practice activities, along with reinforcing online, on-demand activities in a blended learning format that leads clinicians through the knowledge and skills they need to achieve clinical quality improvement (QI; see **Figure 1**).

Figure 1. Sequential Blended Learning

A collateral opt-in after-education QI coaching for performance improvement (CoPI) program was developed and implemented by the ACC. This program offers RightSTEPS learners the chance to see real change with self-reported performance measures, including prescribing rates and tracking of Centers for Medicare & Medicaid Services (CMS) Core Measures. The outcomes of the CoPI are being collected and analyzed by the ACC and are not included this interim assessment of the RightSTEPS curriculum. In addition, HME also collaborated with ACC's CardioSmart patient education and empowerment initiative

to develop a series of face-face-meetings (plus an enduring video capture) for patients and their caregivers that is aligned with the clinician HF education content of the RightSTEPS initiative.

Target Audience

The target audience for the RightSTEPS initiative is cardiologists, internists, primary care physicians, nurses, NPs, PAs, and other clinicians who manage patients with chronic HF; the target audience for the patient education program is patients with chronic HF and their caregivers.

Curriculum Development

Achieving meaningful, durable behavioral change requires a curriculum crafted to deliver education in multiple ways, over time, in a logical continuum from predisposing, to enabling, and finally reinforcing activities. A framework of sequenced activities was developed using concepts from the PRECEDE-PROCEED model (PPM) to maximize educational impact and support sustainable behavior change for both clinicians and patients.

The PPM directs initial attention to outcomes rather than inputs. While forcing planners to deploy concepts of "backward design" is by no means novel, our customization of the 4-phase model is unique. In particular, we modified phase 3 of the PPM to a simple concept of *Learn, Practice,* and *Perform* (**Table 1**).

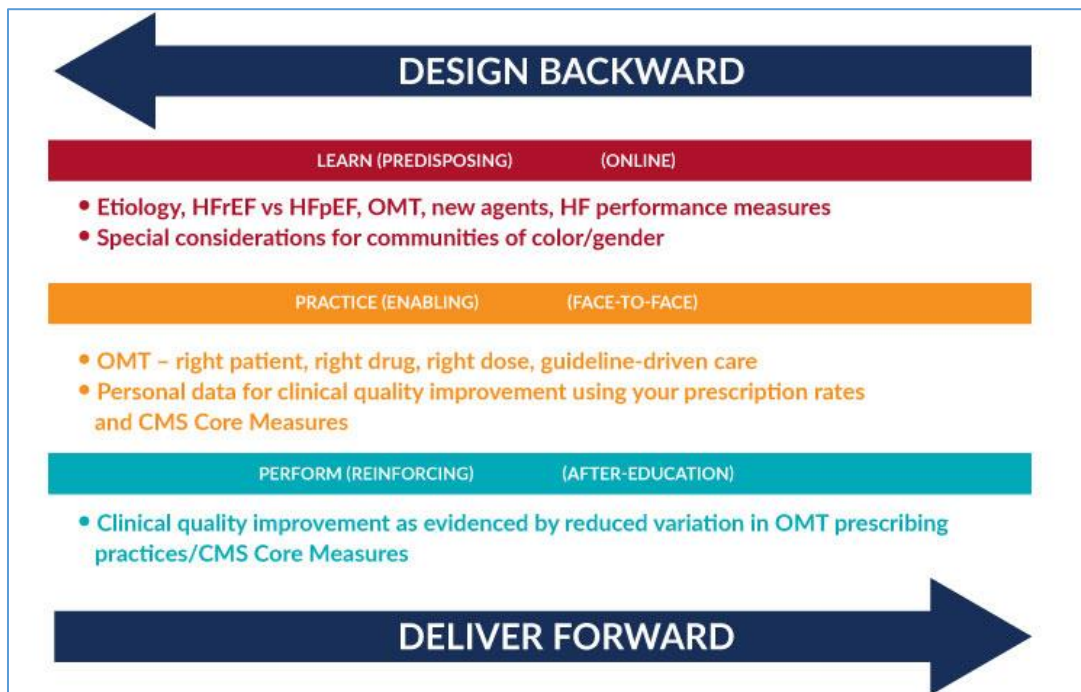**Table 1. Learn, Practice, Perform: A Modification of PRECEDE-PROCEED**

Activity Phase	Curriculum Elements
Learn (predisposing online); 18 self-paced, on-demand CME/CNE-accredited activities	• 7 Expert videos addressing crucial aspects of OMT • 7 E-articles on bridging gaps between OMT and clinical practice • 4 Case-based videos addressing challenges in management of special populations
Practice (enabling live); 30 live meetings	• 20 CME/CNE-accredited live meetings within a mixture of regional academic medical centers/hospital systems and Veterans Affairs hospitals • 10 Patient/caregiver sessions (90 minutes; not certified for credit)

Perform (reinforcing online); 3 self-paced, on-demand activities	• Enduring conference video capture of 1 clinician-directed face-to-face live meeting (CME/CNE-accredited) and 1 patient/caregiver session • Print monograph/e-article to close the learning feedback loop by addressing key challenges/concerns identified by learner responses to the predisposing and enabling activities (CME/CNE-accredited) • ACC's Coaching for Performance Improvement (CoPI) program; results not analyzed for this interim report

The curriculum is delivered using a "flipped learning" approach that fosters learner-centered education. By priming the content with predisposing, self-paced, individual online learning activities posted on myCME—HME's global medical education website—the face-to-face encounter is transformed into a dynamic, interactive experience offering opportunities for the faculty to uncover and address misinterpretations or misunderstandings (**Figure 2**). This approach also allows for structured online after-education activities that reinforce learning. All activities are carried out with strict attention to the letter and spirit of the Accreditation Council for Continuing Medical Education's (ACCME's) and the American Nurses Credentialing Center's (ANCC's) standards for effective and ethical medical education.

Figure 2. Dynamic Interactive Education

Educational Tactics

The tactics for the Learn, Practice, and Perform activities are summarized below; additional details are found in **Appendix 2**.

Predisposing Online Activities (Learn)

Common concerns in the management of chronic HF were addressed by 7 myCME Expert Perspectives™ online video lessons (0.50 CME/CNE credit hour per activity). Companion myCME Viewpoints™ in Heart Failure e-articles (0.50 CME/CNE credit hour per activity) focused on closing the gaps between guideline recommendations and actual practice in routine clinical care, while case-based online myCME Monologues to Dialogues™ videos were developed to illustrate special considerations for women and communities of color (1.00 CME/CNE credit hour each).

Enabling Face-to-Face Activities (Practice)

A series of live meetings was initiated in November 2017, with ongoing regional health center– and Veterans Affairs (VA) hospital–based activities scheduled through August 2018. Each activity consists of a 1-hour presentation on evidence-based, guideline-directed management of chronic HF and a 1-hour online presentation on how to articulate and implement OMT within new Medicare Access and CHIP Reauthorization Act of 2015 (MACRA)/Quality Payment Program (QPP) guidelines (2.0 CME/CNE credit hours each); selected meetings included a separate session aimed at patients and their caregivers (no credit).

This portion of the multifaceted RightSTEPS curriculum, *Lessons for the Front Line: How to Reduce Performance Variation in Chronic Heart Failure Management*, consists of a total of 20 live meetings taking place within hospitals representing regions that the Centers for Disease Control and Prevention (CDC) has identified as demonstrating high rates of chronic HF mortality. These face-to-face enabling educational activities were designed to provide clinicians with practical guidance on evidence-based, guidelines-driven, streamlined OMT strategies as well as tips on how to best navigate the CMS MACRA/QPP system for Medicare reimbursement. The live meeting content was intended to complement and amplify the comprehensive content of the predisposing on-demand, self-paced activities, thus addressing the full spectrum of challenges in the management of HF.

<u>Reinforcing After-Education (Perform)</u>

A series of 3 activities were designed to reinforce key concepts and encourage participants to reflect on questions raised and lessons learned during the LEARN and PRACTICE components of the RightSTEPS initiative. These included ACC's CoPI (in progress, no credit); an enduring video capture of the representative live face-to-face meeting (2.0 CME/CNE credit hours); and a print monograph/e-article (first distributed in June 2018).

The RightSTEPS initiative is fully aligned with all 8 Alliance for Continuing Education in the Health Professions (Alliance) National Learning Competency areas (**Table 2**), including use of a customized PPM educational format to design an intervention aimed at the entire HF patient care team, with the goal of improving outcomes through OMT (Areas 1 and 2); collection of both summative and formative assessment data (Area 3); and collaboration with representatives of the entire HF management team (Areas 4 and 8) in accordance with the Alliance's Continuing Education in the Health Professions (CEhp) standards (Areas 5, 6, and 7).

Table 2. Alliance for Continuing Education in the Health Professions National Learning Competencies[13]

1. Using adult and organizational learning principles
2. Designing educational interventions
3. Measuring the effectiveness of CEhp activities and the impact of the overall CEhp program
4. Collaborating and partnering with stakeholders
5. Managing and administering the CEhp program
6. Leading the CEhp program
7. Engaging in self-assessment and lifelong learning
8. Engaging in systems-thinking in CEhp

Measurement of Impact

A variety of quantitative and qualitative assessment tools have been utilized to measure the effectiveness of the educational initiative in meeting the overall goals and learning objectives (LOs). These include pre- and post-activity assessments of knowledge and competence, a self-assessment of intent to change practice behaviors, and 8-week follow-up outcomes assessments to determine the extent to which those practice changes have been adopted. Whenever possible, formative outcomes are being used to improve remaining content in the initiative. Moore's Level 1 to 5 outcomes are measured (**Table 3**).[14] The objective is to evaluate effectiveness in attaining the LOs tailored to each individual activity.

For the pre-/post-tests, the rate of change in selecting the correct answer from pre- to post-test is determined for each question, and the results for those that are aligned for each objective are aggregated. Each question is analyzed to establish significance of result (ie, $P ≤ .05$), as well as to determine who among the participants either: displayed an improvement in that question (ie, wrong answer choice in the pre-test, correct answer in the post-test); or reinforced their knowledge (correct answer in both pre- and post-test); or was unaffected (wrong post-test answer regardless of result in the pre-test).

For the practice change strategy, participants are asked post-activity how often each of them use each strategy in their respective practices. Participants rate their current frequency of use on a 5-point Likert scale (with 5 as "Always" and 1 as "Never"). They are then asked how often they now plan to use the same practice strategies using the same scale as a result of their participation in the educational activity. Finally, approximately 60 days after the individual's participation in the activity, they receive a follow-up survey that includes a question asking them how often they actually used the strategy, again rating it on a 5-point scale. The average rate for each strategy is compared to the average rate of how often participants currently use each strategy.

Table 3. Moore's Level of Change Measured in the RightSTEPS Activities

Level of Change	How Measured
1: Participation of targeted clinicians	Evaluation form following each activity
2: Participant satisfaction with content	Evaluation form following each activity
3a/3b: Awareness/knowledge	Pre- and post-activity knowledge-based questions[a]
4: Competence (subjective; objective)	Pre- and post-activity case vignettes and/or current/planned frequency of use[a]
5: Performance (subjective/self-reported) ▪ Identification of barriers to ideal performance (subjective/self-reported) ▪ Improvements in quality of care (subjective/self-reported)	8-weeks post-activity, learners receive an email with follow-up survey questions assessing: ▪ Self-reported change in recommended clinical practice strategies ▪ Barriers to performance change ▪ Patient outcomes resulting from performance changes

[a]Multiple-choice tests written collaboratively by faculty and educational staffs of HME and ACC to assess change in relation to specific knowledge, confidence, and competence components of the activity's learning objectives.

RESULTS

The following results are for data gathered relative to CME-certified activities to date; elements of the initiative that had not yet accrued at least 6 months of outcomes data at the time of this analysis are excluded.
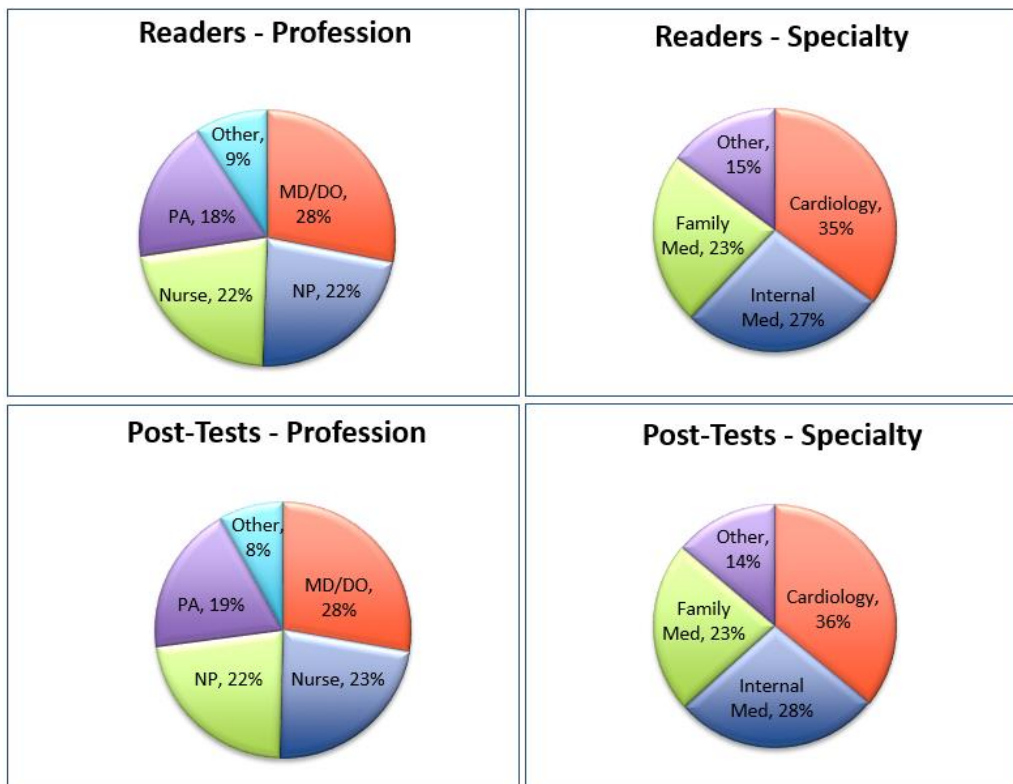
Predisposing Activities

The following data represent an interim analysis of educational outcomes for 18 ongoing predisposing (enduring) activities based on data accumulated from January 31, 2017, through October 19, 2017.
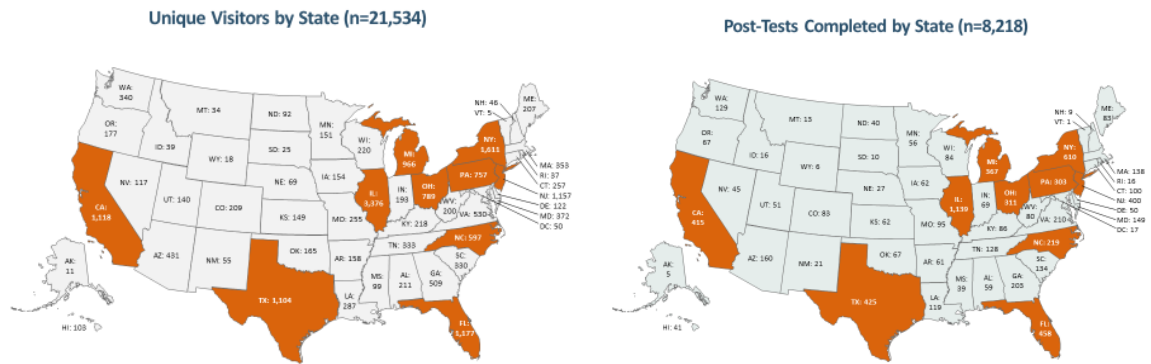
Participation Metrics (Level 1)

As of this interim data cutoff, the predisposing online activities had a total of 9364 readers with 8218 completing the post-test (88%), allowing them to claim CME/CNE credit. Of these learners, 69% were prescribers (including NPs and PAs), and 36% were specialized in cardiology (see **Figure 3**).

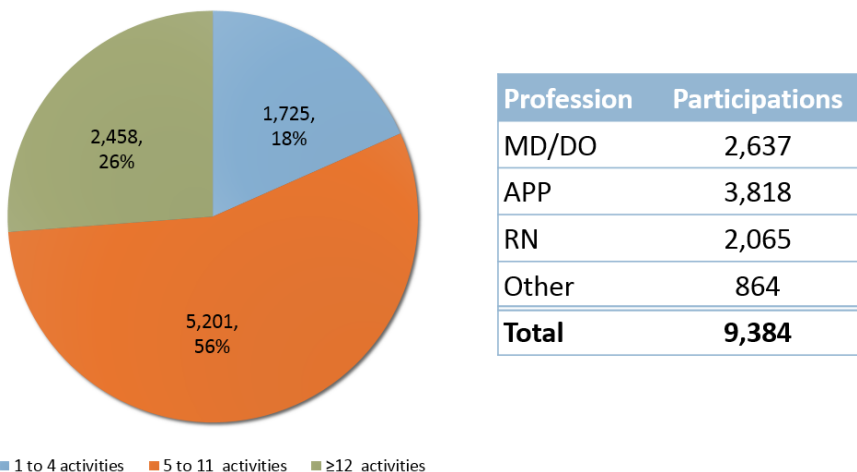**Figure 3. Participation by Profession and Specialty**

The activities were viewed 100,145 times by 21,534 unique viewers, with the majority of unique visitors (n=12,652 [59%]) representing 10 states; those same 10 states also delivered the majority of post-tests (n=4247 [52%]) (**Figure 4**).

Figure 4. Unique Visitors and Post-tests by State

Engagement in blended learning was determined as a percentage of readers/learners engaging in 1 to 4, 5 to 11, or 12 or more activities. At the interim data cutoff, the majority of the 9384 readers/learners had participated in multiple predisposing activities, with 56% participating in 5 to 11 activities, 26% participating in 12 or more activities, and 18% participating in 1 to 4 activities. The breakdown of total participations by profession included 40.6% by advanced practice providers (APPs), 28.1% by MDs/DOs, 22.0% by RNs, and 9.2% by other readers/learners (**Figure 5**).

Figure 5. Engagement in Blended Learning

Profession	Participations
MD/DO	2,637
APP	3,818
RN	2,065
Other	864
Total	**9,384**

■ 1 to 4 activities ■ 5 to 11 activities ■ ≥12 activities

Satisfaction Metrics (Level 2)

Participants who completed a predisposing activity were given the opportunity to complete a post-activity evaluation and claim CME/CNE credit. Readers/learners who did not complete the evaluation and claim credit immediately after the activity were sent reminders by myCME to finish the evaluation and claim credit. As of this report, 8095 participants have completed the post-activity survey and claimed credit. Of these participants, 91% agreed or strongly agreed that the activity enhanced their professional effectiveness; 90% agreed or strongly agreed that the topics were current and clinically relevant to their respective practices; 90% agreed or strongly agreed that the faculty presented content that can be translated into actionable items; and 99% indicated that the activity was fair balanced, objective, and free of bias for or against any product.

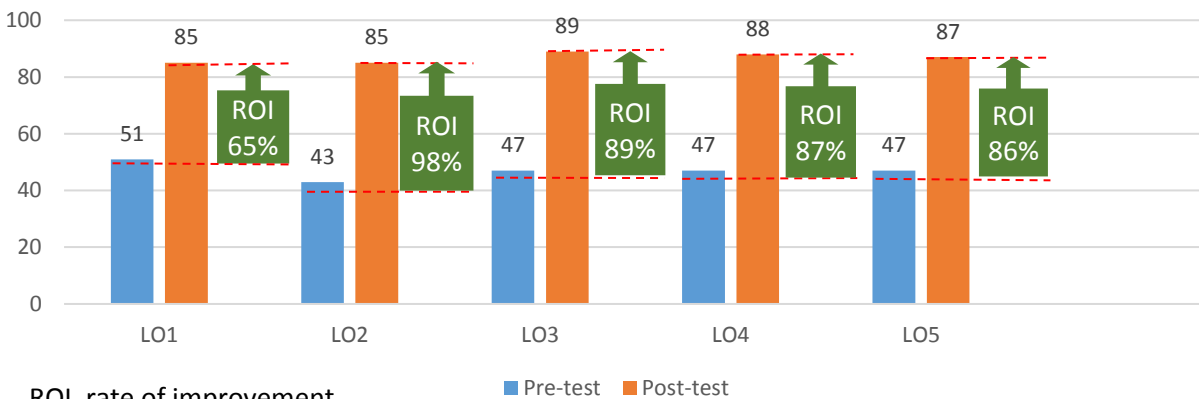Awareness/Knowledge and Competence Metrics (Levels 3 and 4)

Although each educational activity has specific, individualized LOs and outcomes assessments, the impact of the predisposing activities on knowledge, competence, and practice behaviors was measured against overarching LOs for the RightSTEPS curriculum as a whole. Readers/learners were asked to complete pre- and post-activity assessments, and responses were used to evaluate alignment with the RightSTEPS LOs.

Correct answers were aggregated according to which of the overarching LOs were addressed by the activity (see **Appendix 3** for a detailed summary of which activities were associated with each of the LOs). The overarching predisposing initiatives LOs were:

1. Explain chronic HF etiology and pathology as well as diagnostic and treatment strategies based on reduced or preserved ejection fraction status
2. Implement evidence-based strategies for patients of identified race/ethnicity and gender, particularly guideline-driven optimal medical therapy to improve quality of care and reduce morbidity, with consequences that include excess hospital admission/readmission and even death
3. Utilize guideline-driven recommendations for optimal medical therapy, specifically uptitration strategies in chronic HF
4. Evaluate the utilization of newer HF agents and their impact on chronic HF patient outcomes, hospital care, and reducing hospital readmissions
Identify where to find individual performance data and how to retrieve and use it to meet the Clinical Improvement Activity category of the MIPS [Merit-based Incentive Payment System] program

The rate of improvement was calculated based on comparison of the aggregate percentages of correct pre- and post-test responses (**Figure 6**) to questions across activities related to the individual LOs. It is noteworthy that the target audience for this activity had a relatively high baseline understanding of the general mechanisms of HF, as reflected in the percentage of correct pre-test responses for questions pertaining to LO 1: the rate of improvement for questions related to LO 1 was 65%. Baseline knowledge appears to have been higher for LOs 2, 3, and 4—where the rates of improvement from pre-test to post-test were 98%, 89%, 87%, and 86%, respectively.

Figure 6. Rates of Improvement by Learning Objective (LO)

ROI, rate of improvement.

Performance Metrics (Level 5)

When asked whether and how much more or less often they would make changes to their clinical practice strategies based on the 47 different clinical practice strategies recommended in the 18 activities, a mean of 68.7% of respondents self-reported "More Often" or "Much More Often" regarding frequency of use across all 47 OMT strategies (**Figure 7**).
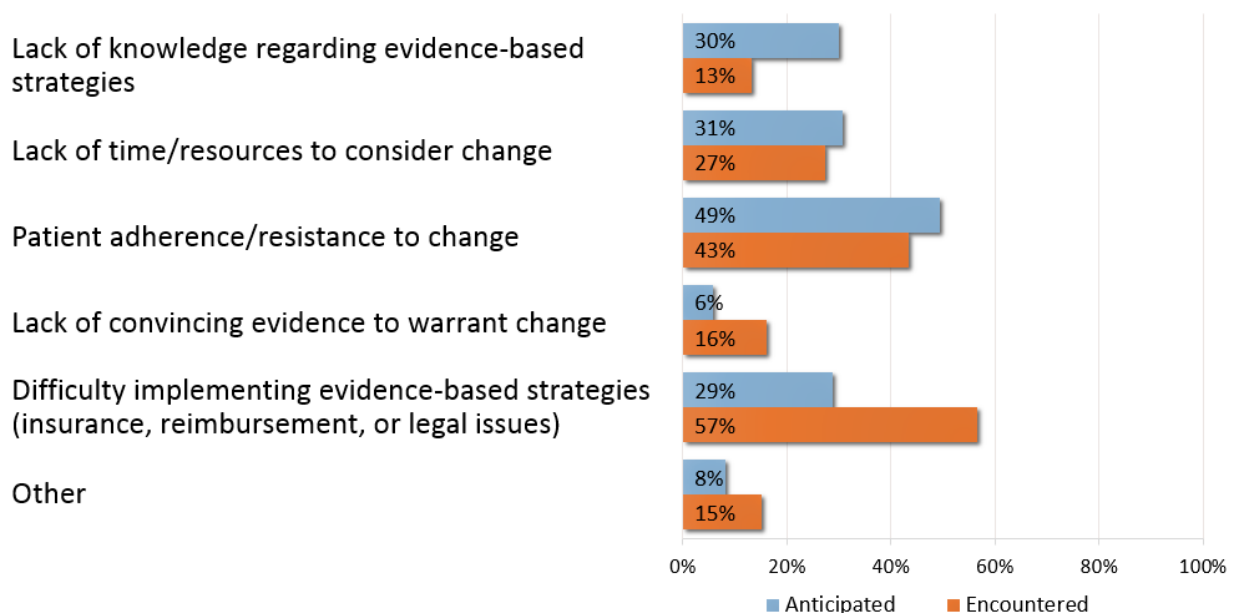
Figure 7. Self-reported Performance Change

To capture data on barriers to implementing the performance changes identified, participants were surveyed on both anticipated and encountered barriers. Data on anticipated barriers were collected post-activity (n=8095), whereas data on encountered barriers were collected in the outcomes survey (n=247). Responses to the question "*Which of the following barriers or challenges did you encounter in implementing the changes identified above?*" are summarized in **Figure 8**. Anticipated barriers exceeded encountered barriers for 3 responses: Lack of knowledge regarding evidence-based strategies, Lack of time/resources to consider change, and Patient adherence/resistance to change. Responders' encountered barriers exceeded anticipated barriers for 3 responses: Lack of convincing evidence to warrant change, Difficulty implementing evidence-based strategies (insurance, reimbursement, or legal issues), and Other.

Figure 8. Anticipated vs Encountered Barriers to Performance Change

Participants were asked "Which of the following barriers or challenges did you encounter in implementing the changes identified above? (Select all that apply)"

Barrier	Anticipated	Encountered
Lack of knowledge regarding evidence-based strategies	30%	13%
Lack of time/resources to consider change	31%	27%
Patient adherence/resistance to change	49%	43%
Lack of convincing evidence to warrant change	6%	16%
Difficulty implementing evidence-based strategies (insurance, reimbursement, or legal issues)	29%	57%
Other	8%	15%

n=8095 (anticipated); n=247 (encountered).
"Anticipated" data collected post-activity; "Encountered" data collected in outcomes survey.

To determine the patient-level impact of the activity, learners were asked how many patients, on average, they saw each day; how many days per week, on average, they see patients; and what percentage of the patients they treat is affected by chronic HF. Based on 8095 completers who provided

demographic data related to their patient population, the education has the potential to have a positive impact on 22.9 patients per participant per week.

In addition, a follow-up survey was distributed automatically to participants who completed the post-tests and evaluations for each of the 18 predisposing activities. This survey, designed to capture self-reported subjective changes in performance, barriers to performance change, and scope of positive patient impact, was sent 60 days after participant completion of the activity. To date, 247 participants (3%) have completed the 60-day self-reported outcomes survey. Based on clinicians' self-reported results (n=214), an estimated 1094 HF patients per week benefited as a result of these CME activities (~11 patients per clinician per week, or ~46% of all HF patients they see per week).

In response to an open-ended question regarding improvements in quality of care, learners reported significant outcomes/improvements observed in their patients as a result of incorporating these strategies into real-world practice; however, a few learners noted that it was too soon (~12 weeks) to see significant changes in patient outcomes in chronic HF. The most commonly cited improved patient outcomes (subjective) included fewer hospitalizations and readmissions, reduced symptoms, improved function, improved QoL, and increased medication compliance. Several learners also noted improvements in patient counseling/education and development of care plans.

The evaluation form for each activity also included an open-ended question asking the participant to identify areas of need and/or gaps in their own practice that they would like to see covered in future educational activities. Major areas of need/interest for future educational activities in management of chronic HF were:
- Information on nutrition/diet for chronic HF patients
- COPD as a comorbidity
- Patient compliance
- Patient education
- Nursing education, especially bedside critical care
- Cardiac imaging
- Emergency department (ED) care (including lack of time with patient before hospitalization)
- Drug formularies/cost to patient
- Management strategies, including strategies for home care; patient self-care; staffing strategies; strategies to prevent rehospitalization
- More information on HFrEF (heart failure with reduced ejection fraction) vs HFpEF (heart failure with preserved ejection fraction), including treatment of HFpEF
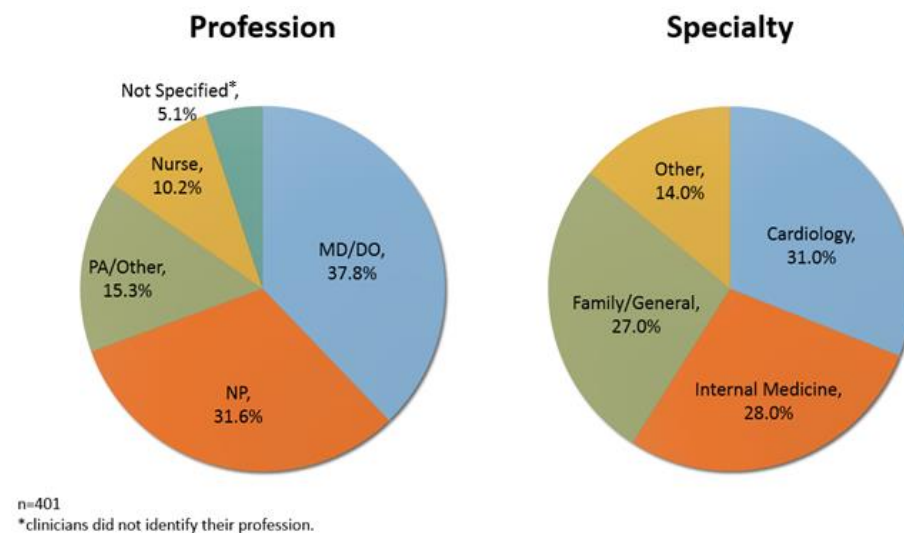
Live Meetings

The following data reflect the most recent metrics gathered from the 9 live meetings that took place between July 31, 2017, and November 19, 2017, reaching a total of 401 learners. Evaluation data for 11 additional live meetings are not yet available. **Appendix 4** details the dates, venues, and presenting faculty for these 9 meetings.

Participation Metrics (Level 1)

The breakdown of participants by profession was: MD/DO, 37.8%; NP, 31.6%; PA/other, 15.3%; nurse, 10.2%; and not specified, 5.1%. There was nearly equal representation of clinicians from the specialties of cardiology (31.0%), internal medicine (28.0%), and family/general medicine (27.0%), with 14% of participants listing their specialty as "Other" (**Figure 9**).

Figure 9. Activity Participation by Profession and Specialty

n=401
*clinicians did not identify their profession.
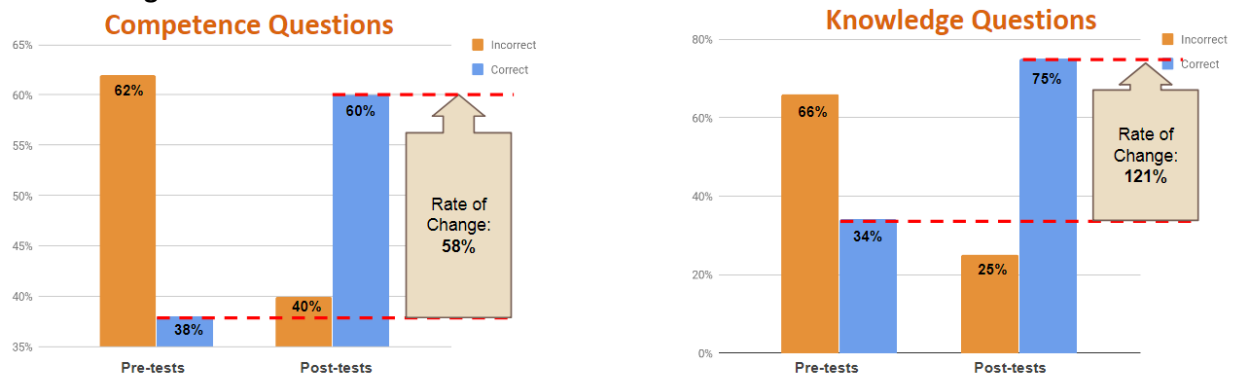
Satisfaction Metrics (Level 2)

Of the 160 participants who responded to the post-activity evaluation, 93% agreed or strongly agreed that the activity enhanced their professional effectiveness; 93% agreed or strongly agreed that the topics were current and clinically relevant to their respective practices; 92% agreed or strongly agreed that the faculty presented content that can be translated into actionable items; and 100% indicated that the activity was fair balanced, objective, and free of bias for or against any product. More than 90% of the learners indicated that the activity achieved each of the LOs:

- Demonstrate appropriate selection of OMT for HF patients, including African Americans, Hispanics, Native Americans, and women (98%)
- Demonstrate an understanding of HF performance data—specifically, individual prescribing rates and CMS core measures (94%)
- Determine how individual prescribing rates and/or core measures can be utilized for clinical quality improvement (96%)

Awareness/Knowledge and Competence Metrics (Levels 3 and 4)

Learners across 9 activities to date have shown improvements in competence as assessed by rates of change in pre- and post-activity test scores on a total of 4 patient case-based competence questions as well as improvements in awareness/knowledge based on their understanding of MACRA/QPP reimbursement performance measures (see **Figure 10**). Competence-based questions entailed patient-case scenarios, asking participants to choose the correct modification to the patient's current medical therapy. Knowledge-based questions assessed participants' understanding of how MACRA/QPP impacts their practice, as well as how to review their prescription rates to determine their degree of compliance with guideline-directed recommendations for OMT. The questions and analysis of responses are detailed in **Appendix 4**.

Figure 10. Overall Improvements in Competence and Awareness/Knowledge Following Participation in Live Meetings

n = 160

*Competence assessed by responses to 4 patient-case based questions; knowledge assessed by responses to 2 questions related to MACRA/QPP reimbursement performance measures.

Performance Metrics (Level 5)

When questioned on their current use of the clinical OMT practice strategies recommended in the live presentations, a mean of 55.0% of respondents who completed the evaluation (n=160) reported that they either "Always" or "Often" employ the recommended strategies. However, when asked about their intent to implement these strategies as a result of the educational activity, a mean of 72.7% of

respondents reported that they now planned to use these strategies either "Always" or "Often." These data represent a 32.2% average rate of improvement of "Always" or "Often" responses from current to planned frequency of use (**Figure 11**).

Figure 11. Intent to Change: Current vs Planned Frequency of Use

In terms of barriers to performance change, of the 160 respondents, the majority (64%) said that patient adherence/resistance to change was the primary anticipated obstacle to implementing changes in practice (**Figure 12**). Lack of knowledge regarding evidence-based strategies was a significant anticipated primary barrier for 48% of responders.

Figure 12. Anticipated Barriers

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Based on self-reported demographic data collected from the post-activity evaluation form, respondents (n=160 of 401 total participants) see an average of 33.9 patents per day, on 3 to 6 days per week, with an average of 34.8% of those patients being affected by chronic HF. This translates to a potential positive patient impact per participant, per week of 42.5.

Respondents' verbatim responses to an open-ended question about what future activities they would like to see indicated a robust interest in educational programs on OMT for chronic HF, including strategies for implementing guideline-directed medical therapy and improving patient compliance. A summary of these verbatim comments appears in **Appendix 5**.

DISCUSSION

Overall, the data show that the learners engaged with and learned from the curriculum, increased their knowledge and competence, and indicated intent to change their performance to better provide OMT to their patients with HF. Pre- and post-activity assessments of knowledge, competence, and practice behaviors show substantive improvements in learners' knowledge and confidence in their ability to implement evidence-based, guideline-directed OMT strategies in the care of patients with HF in alignment with LOs and desired outcomes.

Our outcomes analyses document incremental improvements in performance for most activities in addition to substantial increases in knowledge and competence (Levels 3 and 4), although self-reported intent to change practice does not always result in actual change as reported at 8 weeks. This may be attributed in part to one striking finding: learners consistently report systemic barriers to performance improvement.

Overall, more than half the respondents have cited patient adherence or resistance to change as the primary barrier to implementing changes in practice, whereas nearly half cite lack of knowledge of evidence-based strategies as their primary barrier. Slightly over one-quarter of participants said that insurance, legal, or reimbursement issues were a key barrier to implementation of evidence-based strategies.

These findings suggest that while education focused on knowledge and competence is necessary, such activities alone are not sufficient to produce sustained behavior change. They also indicate the potential value of the MACRA/QPP component of the RightSTEPS face-to-face activities that are currently being rolled out and amplify the value of education driven by ongoing outcomes assessment that helps to

document gaps in knowledge, competence, *and* performance as part of a continuous feedback loop that informs the development of future activities.

A limitation of this curriculum design is that because there is no access to patient records, the design does not allow for assessment of objective patient outcomes or of documented changes in prescribing practices as a result of the learning. Nevertheless, the assessments were designed to elicit subjective, self-reported reflection on the potential impact of intended performance changes on patient outcomes. As additional 12-week follow-up surveys are disseminated, we anticipate that more information about observed changes in patient health status and behaviors will accrue.

It should be noted that one roadblock was encountered during implementation of the initiative, which forced a change of the original plans for the 20 face-to-face activities. Originally, these were to be divided evenly between regional health centers and VA hospitals. However, legislative uncertainties imposed severe limitations on the ability to recruit as many VA hospitals as originally planned, leading to an unplanned concentration of these meetings in the private sector.

Despite these limitations, the RightSTEPS initiative offers a model for excellence in educational design because it employs a proven educational approach—PPM—that has been customized to fit the specific identified educational needs and performance gaps of its target audiences. A key lesson learned is how the collaborative approach that is required among the clinicians who care for patients with chronic HF echoes the ways in which ACC and HME—and the individual institutions that host our face-to-face activities—have partnered with each other. This collaboration has not only contributed to our individual ongoing growth and engagement with self-assessment and lifelong learning, but also has strengthened our understanding of how continuing education (CE) can be best delivered through a "systems-thinking" perspective.

By design, the educational model of the RightSTEPS initiative can be sustained over time and scaled up to reach even greater numbers of clinicians who manage patients with HF. The model is fully replicable and can be applied in any number of therapeutic areas with a wide range of target audiences. As for future initiatives, HME intends to pursue grant funding for similar models in a wide range of therapeutic areas where there are demonstrable gaps between evidence and practice that can be bridged by this kind of stepwise, self-reinforcing educational intervention and to share these experiences through

publication of the curriculum design and educational outcomes in appropriate professional journals and conference venues.

Conclusions: While there were substantial improvements in knowledge, competence, and practice relative to the objectives of the program, analysis of test items and evaluations demonstrated that further ongoing education is needed to eradicate barriers to the provision of optimal medical therapy for patients with chronic heart failure.

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Appendix 1. Educational Needs Assessment/Gap Analysis Summary

The complexity of HF coupled with the scope of this education initiative warranted a multifaceted needs assessment that included not only traditional sources such as peer-reviewed literature but also a customized physician survey as well as one-on-one conversations with HF thought leaders.

Learner Survey
- Distributed Feb 2016
- Opted-in clinicians
  - Cardiologists
  - Internists

Insights From ACC 2016 Participants
- "Listening Tour" from thought leaders
- Evaluations and FAQs from ACC members

Review of Literature
- ACC/AHA Guidelines
- Peer-reviewed Journals

AHA, American Heart Association.

Key Findings From Learner Survey

In February of 2016, HME in partnership with myCME developed and distributed a learner survey to assess the educational needs of clinicians who specialize or have an interest in the care of patients with HF. Targeted survey participants were myCME-registered users who had opted in to receive such communications. Survey respondents included cardiologists (n=64), internists (n=15), and family and general practice physicians (n=12). These findings, along with anecdotal insights from cardiology thought-leaders attending the 2016 Annual Scientific Session of the American College of Cardiology (ACC) helped inform the overall direction of the needs assessment, which was structured around a focused review of the current peer-reviewed literature.

OVERARCHING LEARNING OBJECTIVE 1:

Practice Gap	Heart failure (HF) is now recognized as a global epidemic, with Americans contributing more than 5.7 million adults—a shocking 22%—to the 26 million worldwide HF population.[a] Despite the complexity of the disease, many patients are treated with a "one-size-fits-all" approach rather than an individually optimal treatment plan. Understanding of current etiologic and pathophysiologic distinctions (eg, reduced or preserved ejection fraction) requires altered diagnostic and treatment approaches. [a]Mozaffarian D, Benjamin EJ, Go AS, et al. Heart disease and stroke statistics—2016 update: a report from the American Heart Association. *Circulation*. 2016;133(4):447-454.

Educational Need	Clinicians may not be aware of the complex etiology of HF or understand the current treatment paradigms and algorithms for the different ejection fraction profiles of HF.
Objective 1	**Explain chronic HF etiology and pathology as well as diagnostic and treatment strategies based on reduced or preserved ejection fraction status**
Learning Outcome	Clinicians should able to identify evidence-based HF etiology as well as pathophysiologic differences between HFrEF and HFpEF.
Performance Outcome	Clinicians report implementation of customized treatment plans for patients with HFrEF and HFpEF.

OVERARCHING OBJECTIVE 2:

Practice Gap	Patient outcomes in chronic HF vary greatly due to disparities in race/ethnicity and socioeconomic status. Clinicians may not be aware of different therapeutic approaches that affect the quality of healthcare among disparate populations. Additionally, women fare less well in HF, although a recent European study showed better outcomes in women, noting lower levels of biomarkers of inflammation and cardiovascular (CV) remodeling in women.[a] Among patients with HF, women are more likely to have HFpEF, while men are more likely to have HFrEF. Survival rates are improving for HFrEF but not for HFpEF, and as yet there is no clearly effective therapy designated for HFpEF.[b] [a]Greiten LE, Holditch SJ, Arunachalam SP, Miller VM. Should there be sex-specific criteria for the diagnosis and treatment of heart failure? *J Cardiovasc Trans Res*. 2014;7:139-155. [b]McMurray JJ, Packer M, Desai AS, et al. Angiotensin-neprilysin inhibition versus enalapril in heart failure. *N Engl J Med*. 2014;371:993-1004.
Educational Need	Providers maybe unaware of the unique needs of patients within certain communities of color or of the special considerations of cardiac care for women, particularly women with HFpEF.
Objective 2	**Implement evidence-based strategies for patients of identified race/ethnicity and gender, particularly guideline-driven therapies, to improve the quality of care and also to reduce morbidity, which has consequences that include excess hospital admission/readmission and even death**
Learning Outcome	Clinicians should be able to identify diagnosis and management considerations for African American, Native American, and Hispanic populations as well as women.
Performance Outcome	Clinicians report customized treatments plans for African American, Native American, and Hispanic populations as well as for women.

OVERARCHING OBJECTIVE 3:

Practice Gap	The latest clinical guidelines for the management of HF were published by the ACCF and AHA in 2013.[a] Research suggests that patient outcomes could be improved considerably with the use of evidence-based strategies as recommended in current practice guidelines.[a-f] However, effective application of the guidelines has become an increasing challenge for practicing clinicians. Additionally, evidence suggests that guidelines do not by themselves drive clinician behavior or practice. There are significant gaps in clinicians' adherence to chronic HF management guidelines, including underuse of first-line recommended therapies as well as not following uptitration recommendations.
	[a] Moe GW, Ezekowitz JA, O'Meara E, et al; Canadian Cardiovascular Society. The 2014 Canadian Cardiovascular Society Heart Failure Management Guidelines Focus Update: anemia, biomarkers, and recent therapeutic trial implications. *Can J Cardiol*. 2015;31(1):3-16.
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Educational Need	Clinicians need clinically relevant, practical approaches to guideline-driven chronic HF care, including strategies that improve utilization and comfort level with first-line therapies—including uptitration approaches.
Objective 3	**Utilize guideline-driven recommendations for optimal medical therapy (OMT), specifically uptitration strategies in chronic HF**
Learning Outcome	Providers should improve their utilization and uptitration of OMT, including angiotensin-converting enzyme (ACE) inhibitors, angiotensin receptor blockers (ARBs), and beta-blockers.
Performance Outcome	Providers should have improved their ACE inhibitor, ARB, and beta-blocker prescription rates.

OVERARCHING OBJECTIVE 4:

Practice Gap	Chronic HF treatment options have expanded with the recent US Food and Drug Administration approvals of ivabradine (April 2015) and sacubitril/valsartan (July 2015). These drugs are pharmacologically very different from each other, and the

	major clinical trials reflect populations most likely to benefit from each. These novel approaches target key intracellular signaling pathways with the goal of further improving mortality and hospital readmissions and reducing the risk of side effects. Cardiologists and other HF specialists should be able to comprehend the mechanisms of action, advantages, and potential side effects of newer therapies and communicate them to patients as a means of selecting effective treatment strategies and promoting adherence.[a,b]
	[a] McKelvie RS, Moe GW, Ezekowitz JA, et al. Society guidelines: the 2012 Canadian Cardiovascular Society Heart Failure Management Guidelines Update: focus on acute and chronic heart failure. *Can J Cardiol*. 2013;29:168-181. [b] Moser DK, Doering LV, Chung ML. Vulnerabilities of patients recovering from an exacerbation of chronic heart failure. *Am Heart J*. 2005;150(5):984.
Educational Need	Providers need to improve their understanding and utilization of the new agents, including the potential impact on required hospital care.
Objective 4	**Evaluate the utilization of newer HF agents and their impact on chronic HF patient outcomes, hospital care, and reducing hospital readmissions**
Learning Outcome	Clinicians should be able to identify the mechanisms of action, potential advantages, and potential side effects of sacubitril/valsartan and ivabradine and understand their impact on patient outcomes and hospital care.
Performance Outcome	Clinicians will improve their consideration of sacubitril/valsartan and ivabradine.

OVERARCHING OBJECTIVE 5 (for QI initiative only):

Practice Gap	Starting in 2019, there will be 2 pathways for clinician payment: the Merit-based Incentive Payment System (MIPS) and participation in eligible Alternative Payment Models (APMs). MIPS allows Medicare-accepting clinicians to be paid for providing high-value care through success in 4 performance categories: Quality, Advancing Care Information, Clinical Practice Improvement Activities, and Cost. Note: While the confusion around the payment paradigm shift goes beyond this initiative, clinicians need a pragmatic approach to understanding the HF Core Measures.
Educational Need	Clinicians should have improved understanding of recently announced HF core measures and how their individual performance is being evaluated within the MIPS Program.
Objective 5	**Identify where to find individual performance data and how to retrieve and use it to meet the Clinical Practice Improvement Activity category of the MIPS program**

	(Please note: This LO is specific only to the quality improvement [QI] component of the curriculum.)
Learning Outcome	Clinicians should be able to identify HF performance data and know how to use and monitor it for personal clinical improvement, particularly in striving for OMT of chronic HF.
Performance Outcome	Clinicians report improved prescription rates across OMT, including guideline-driven uptitration.

Patient/Caregiver Curriculum

The overall goal of this initiative is to educate, motivate, and empower clinicians who provide care for patients with chronic HF, leveraging OMT as a tool to improve outcomes that include reducing hospitalization and readmission rates. Chronic HF management depends in part on effective self-care by patients and caregivers, such as consistent adherence to medication regimens and other lifestyle practices (eg, daily weighing and monitoring for signs and symptoms of disease progression). A curriculum that addresses and embraces all stakeholders makes an important contribution to effective, comprehensive chronic HF care. Providing support for patients and caregivers ultimately supports clinicians' efforts as well.

Patient Overarching Objective 1:

Current Practice	Moser and colleagues evaluated the prevalence of multiple risk factors for rehospitalization in patients (N=202) recently discharged from the hospital for decompensated HF. The study found that patient treatment nonadherence was associated with a lack of understanding about the discharge instructions (57%) and confusion about conflicting instructions given by different clinicians (22%). In addition, 31% could not name any HF symptoms.[a] [a] Moser DK, Doering LV, Chung ML. Vulnerabilities of patients recovering from an exacerbation of chronic heart failure. *Am Heart J*. 2005;150(5):984.
Educational Need	Patients/caregivers need a practical understanding of HF that includes how to identify worsening signs and symptoms and what to do about them.

Learning Objective 1	**Patients/caregivers will be able to identify essential signs and symptoms of HF, including fluid retention and shortness of breath**
Learning Outcome	Patients/caregivers will demonstrate an understanding of worsening HF symptoms.
Desired Outcome	Patients will self-report improved monitoring strategies of HF.

Patient Overarching Objectives 2a and 2b:

Current Practice	Additionally, the study found that adherence to recommended self-care strategies was poor, with only 14% of patients weighing themselves daily and only 34% taking all medications as prescribed.[a] [a]Moser DK, Doering LV, Chung ML. Vulnerabilities of patients recovering from an exacerbation of chronic heart failure. *Am Heart J*. 2005;150(5):984.
Educational Need	Patients/caregivers need to understand the importance of daily weight monitoring and medication adherence, both of which have been found to improve outcomes and reduce chronic HF costs and hospital admissions/readmissions.
Learning Objective 2	Patients/caregivers should be able to: a. Identify why and how to monitor daily weight b. Distinguish medications in their medical therapy regimen
Learning Outcome	Patients/caregivers will demonstrate strategies to monitor fluid retention and ensure medication adherence.
Desired Outcome	Patients will report improved fluid management and medication adherence.

Appendix 2. Topics/Titles of Individual Online, On-demand Predisposing Activities

The myCME Expert Perspectives™ were a series online video lessons relating to common concerns in the management of chronic HF (0.50 CME/CNE credit hour per activity):

1. Chronic Heart Failure: Stretching Care Beyond Its Limits
2. Reduced vs Preserved: The Heart Classification That Matters
3. Guideline-Directed Pharmacologic Treatment of Chronic Heart Failure
4. Guideline-Driven Game Changers: Integrating Sacubitril/Valsartan Into Practice
5. Guideline-Driven Game Changers: Integrating Ivabradine Into Practice
6. Chronic Heart Failure Hospitalization and Reducing Readmissions
7. Understanding Heart Failure Core Measures: Got Data?

The myCME Viewpoints™ e-articles focused on closing the gaps between guideline recommendations and actual practice in routine clinical care of chronic HF (0.50 CME/CNE credit hour per activity):

1. Heart Failure Nation: Taking a Hard Look at Implications
2. The Impact of HFrEF vs HFpEF: How Do We Measure Up?
3. Falling Short on Simple Guideline-Directed Care for Heart Failure
4. Sacubitril/Valsartan: A Game Changer in Heart Failure Therapy
5. Every Detail Counts: Interrupting the Revolving Door of HF Hospitalization and Readmission
6. Ivabradine: A Novel Heart Failure Therapy
7. Leveraging the Quality Payment Program to Optimize Heart Failure Care

Four myCME Monologues to Dialogues™ case-based videos illustrated special considerations for women and communities of color (1.00 CME/CNE credit hour each):

1. 63-year-old female patient recently diagnosed with HF with preserved ejection fraction
2. 42-year-old African American man with HF recently discharged from the hospital
3. 52-year-old Native American woman with HF with reduced ejection fraction
4. 59-year-old Hispanic man with HF and multiple comorbidities: a caregiver's perspective

Appendix 3. Activities Associated With Overall Learning Objectives

Learning Objective	Related Activities	Total Learners (n)*
Explain chronic HF etiology and pathology as well as diagnostic and treatment strategies based on reduced or preserved ejection fraction status	myCME Expert Perspectives™ webcasts (n=2): • Chronic Heart Failure: Stretching Care Beyond Its Limits • Heart Failure Nation: Taking a Hard Look at Implications myCME Viewpoints™ e-articles (n=2): • Reduced vs Preserved: The Heart Classification That Matters • The Impact of HFrEF vs HFpEF: How Do We Measure Up?	**3,879**
Implement evidence-based strategies for patients of identified race/ethnicity and gender, particularly guideline-driven optimal medical therapy, to improve the quality of care and also to reduce morbidity, with consequences that include excess hospital admission/readmission and even death	myCME Monologues to Dialogues™ webcasts (special populations; n=4): • 63-year-old female patient recently diagnosed with HF with preserved ejection fraction • 42-year-old African American man with HF recently discharged from the hospital • 52-year-old Native American woman with HF with reduced ejection fraction • 59-year-old Hispanic man with HF and multiple comorbidities: a caregiver's perspective	**1,170**
Utilize guideline-driven recommendations for optimal medical therapy, specifically uptitration strategies in chronic HF	myCME Expert Perspectives™ webcast (n=1): • Guideline-Directed Pharmacologic Treatment of Chronic HF: The First Step to Improved Care myCME Viewpoints™ e-article (n=1): • Falling Short on Simple Guideline-Directed Care for Heart Failure	**1,020**
Evaluate the utilization of newer HF agents and their impact on chronic HF patient outcomes, hospital care, and reducing hospital readmissions	myCME Expert Perspectives™ webcasts (n=3): • Guideline-Driven Game Changers: Integrating Sacubitril/Valsartan Into Practice (Lesson 4) • Chronic HF Hospitalization and Reducing Readmissions (Lesson 6) • Guideline-Driven Game Changers: Integrating Ivabradine Into Practice (Lesson 5) myCME Viewpoints™ e-articles (n=3):	**1,785**

	• Sacubitril/Valsartan: A Game Changer in HF Treatment (Article 4) • Ivabradine: A Novel Heart Failure Therapy (Article 5) • Interrupting the Revolving Door of HF Hospitalization and Readmission (Article 6)	
Identify where to find individual performance data and how to retrieve and use it to meet the Clinical Improvement Activity category of the MIPS program	myCME Expert Perspectives™ webcast (n=1): • Understanding Heart Failure Core Measures: Got Data? myCME Viewpoints™ e-article (n=1): • Leveraging the Quality Payment Program to Optimize Heart Failure Care	**364**

*Total number of learners participating in activities related to collateral objective.

Appendix 4. Live (enabling) Meetings Included in Interim Analysis

Meeting series title: *Lessons for the Front Line: How to Reduce Performance Variation in Chronic Heart Failure Management*

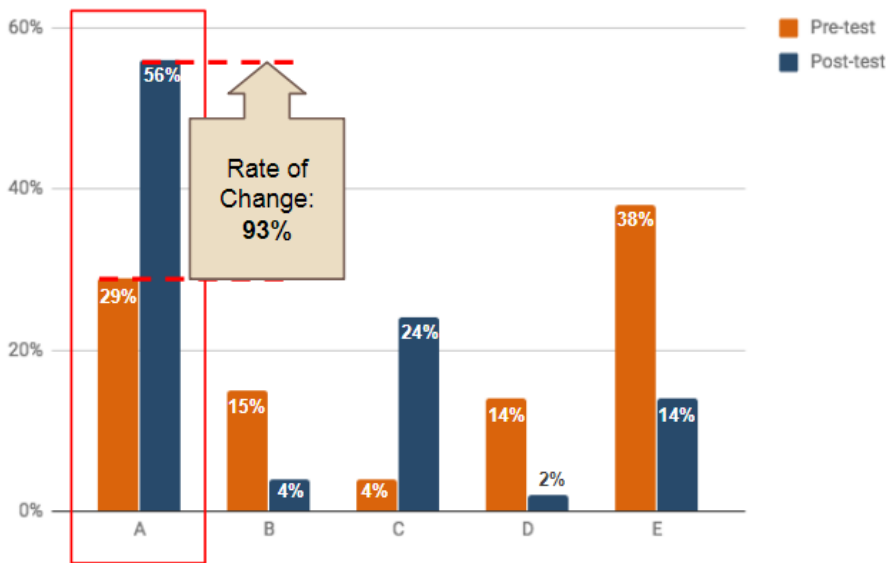**Live Meetings Included in Interim Outcomes Analysis**

Venue	Date	Faculty
Sarasota, FL	7/21/2017	Marc A. Silver, MD, FACP, FACC, FAHA, FHFSA Cathleen Biga, RN, MSN
Neptune NJ	8/7/2017	Alison L. Bailey, MD FACC, FAACVPR Ginger Biesbrock, PA-C, MPH, MPAS, AACC
Johnstown, PA	9/13/2017	Alison L. Bailey, MD FACC, FAACVPR Ginger Biesbrock, PA-C, MPH, MPAS, AACC
Galveston, TX	9/21/2017	Tina Shah, MBBS, FACC Cathleen Biga, RN, MSN
Birmingham, AL	9/26/2017	Alison L. Bailey, MD FACC, FAACVPR
Abilene, TX	10/13/2017	Tina Shah, MBBS, FACC Geoffrey A. Rose, MD, FACC, FASE
Metairie, LA	10/25/2017	Marc A. Silver, MD, FACP, FACC, FAHA, FHFSA Cathleen Biga, RN, MSN
Columbia, SC	11/8/2017	Alison L. Bailey, MD FACC, FAACVPR Ginger Biesbrock, PA-C, MPH, MPAS, AACC
Savannah, GA	11/10/2017	Tina Shah, MBBS, FACC

Appendix 5. Pre-/Post-activity Assessment Questions for Enabling Activity (live meetings)

Question 1 (competence-based)

Case 1: A 50-year-old Hispanic male with a history of coronary heart disease (CHD), previous inferior myocardial infarction (MI), and ischemic cardiomyopathy (EF 30%) presents to your office for clinical follow-up. He notes some dyspnea on climbing stairs but is otherwise asymptomatic. Current medications: lisinopril 40 mg daily; carvedilol 6.25 mg bid; spironolactone 25 mg daily; furosemide 40 mg daily. Vitals: BP 100/70 mm Hg; HR 80 bpm. No jugular venous distension; lungs are clear; no pedal edema. ECG confirms sinus rhythm with right bundle branch block (RBBB); QRS duration 140 ms. What modifications to his current treatment plan would you make?

    A. Increase carvedilol to 12.5 mg bid

    B. Refer for cardiac resynchronization therapy (CRT)

    C. Add ivabradine 2.5 mg bid

    D. Add digoxin 0.125 mg daily

    E. Substitute lisinopril with sacubitril/valsartan 49/51 mg bid

Pre-test / Post-test

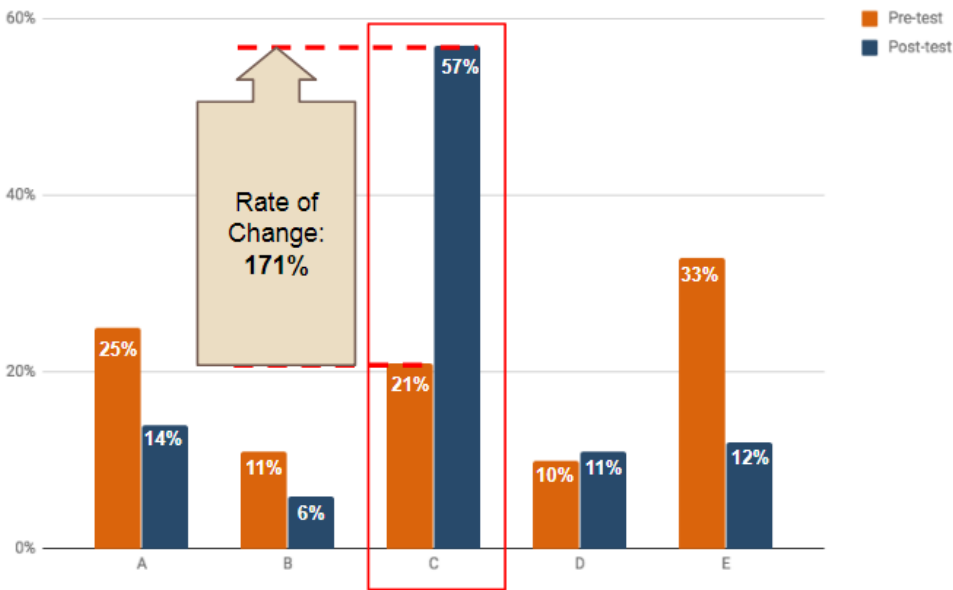|	Pre-test	Post-test
A	29%	56%
B	15%	4%
C	4%	24%
D	14%	2%
E	38%	14%

Rate of Change: 93%

☐ = Correct answer; n, pre-test = 146; n, post-test = 160.

Question 2 (competence-based)

Case 2: A 54-year-old Native American woman with a history of ischemic cardiomyopathy and a left ventricular ejection fraction (LVEF) of 25% presents to your clinic for a regular appointment. Current medications: losartan 150 mg daily; metoprolol succinate 200 mg daily; furosemide 40 mg daily. Vitals: BP 110/70 mm Hg; resting HR 68 bpm. She has NYHA class II symptoms; on physical examination is not volume overloaded. Labs: potassium 4.5 mEq/L; BUN/creatinine 18/1.2 mg/dL^2. What modifications to her current medical therapy would you make?

    A.   Add ivabradine 5 mg bid

    B.   Decrease furosemide to 20 mg daily

    C.   Add eplerenone 50 mg daily

    D.   Add hydralazine (HDZ)/isosorbide dinitrate (ISDN) 37.5/20 mg 3 times a day (tid)

    E.   Make no changes to her current medical therapy

Rate of Change: 171%

Pre-test / Post-test

A: 25% / 14%
B: 11% / 6%
C: 21% / 57%
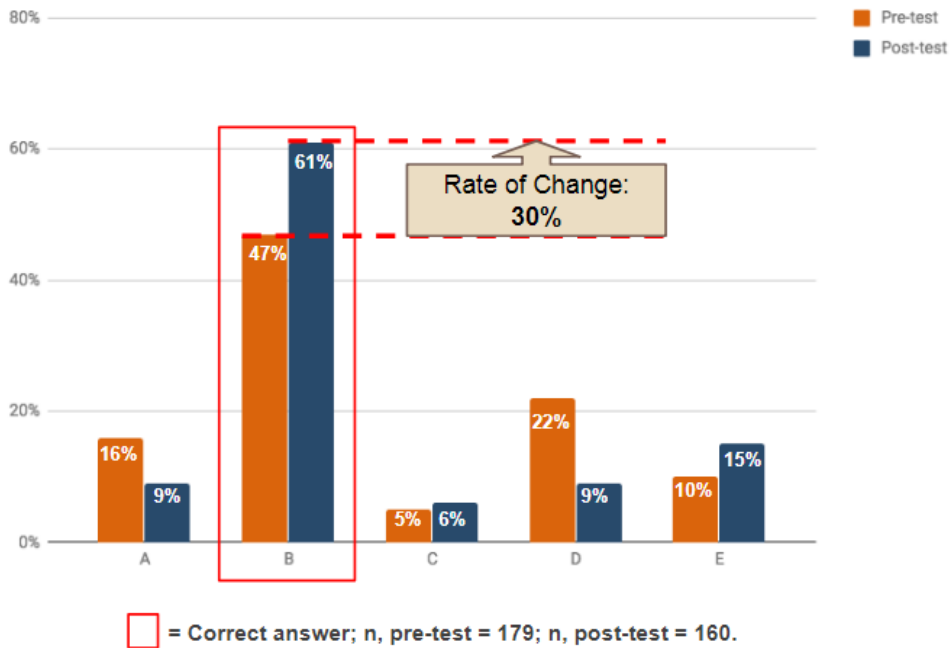D: 10% / 11%
E: 33% / 12%

☐ = Correct answer; n, pre-test = 167; n, post-test = 160.

Question 3 (competence-based)

Case 3: A 36-year-old Caucasian woman with a history of familial cardiomyopathy is seen for evaluation in your office. She was diagnosed 7 years ago while pregnant and treated with neurohormonal blockade. An ICD was placed 6 years ago; she has had no ICD shocks. An echocardiogram 1 month ago revealed an LVEF of 30%. Current medications: enalapril 10 mg bid; carvedilol 25 mg bid; spironolactone 25 mg daily; furosemide 40 mg for the past 6 months. NYHA class II symptoms; not hospitalized in the last year. An ECG today revealed an LBBB pattern with a QRS duration of 130 ms. Vitals: BP 110/60 mm Hg; HR 62 bpm. Labs: potassium 4.9 mEq/L; creatinine 1.6 mg/dL. What modifications to her current medical therapy would you make?
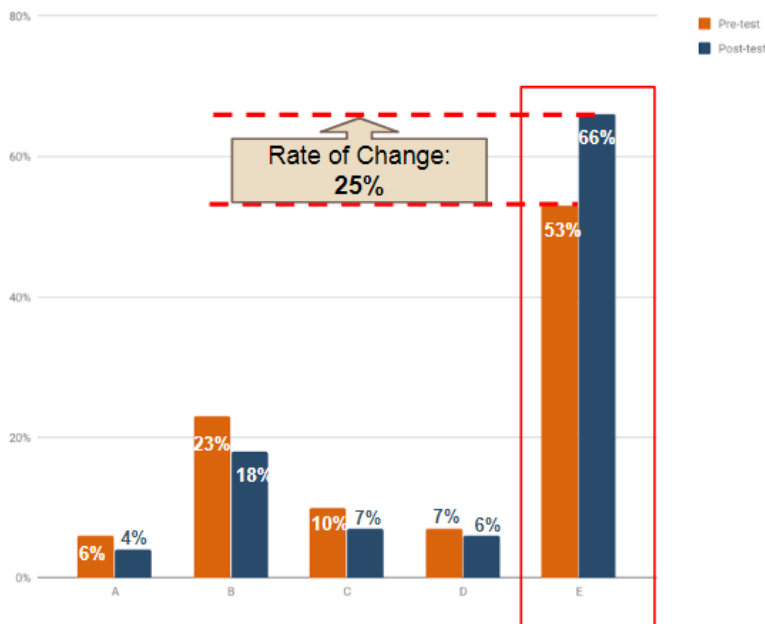
   A. Substitute enalapril with sacubitril/valsartan 49/51 mg bid
   B. Add digoxin 0.125 mg once daily
   C. Change spironolactone to eplerenone 50 mg once daily
   D. Make no changes to her regimen, as she is stable

= Correct answer; n, pre-test = 179; n, post-test = 160.

Question 4 (competence-based)

Case 4: A 64-year-old African American man is referred to you for new-onset HF. His history includes being hospitalized 4 months ago for acute decompensated HF. Coronary angiography did not reveal any obstructive coronary lesions and his LVEF was 20%. He is ambulatory but dyspneic at rest; reports 3-pillow orthopnea and PND. Current medications: furosemide 60 mg bid, enalapril 5 mg once daily, metoprolol succinate 50 mg once daily, and spironolactone 25 mg once daily. Vitals: BP 90/60 mm Hg; HR 60 bpm. Marked JVD, bibasilar rales, S3, and 2+ pedal edema to knees. BNP is 1800 pg/mL; creatinine is 1.5 mg/dL; potassium level is 4.5 mEq/L; ECG reveals sinus rhythm with LBBB; QRS duration is 160 ms. What modifications to his current medical therapy would you make?

A. Substitute enalapril with valsartan/sacubitril 97 mg/103 mg bid within 24 hours

B. Discontinue enalapril and initiate sacubitril/valsartan 97 mg/103 mg bid after 3 days

C. Add sacubitril/valsartan 49 mg/51 mg bid to current regimen

D. Increase enalapril to 10 mg bid and metoprolol succinate to 100 mg once daily

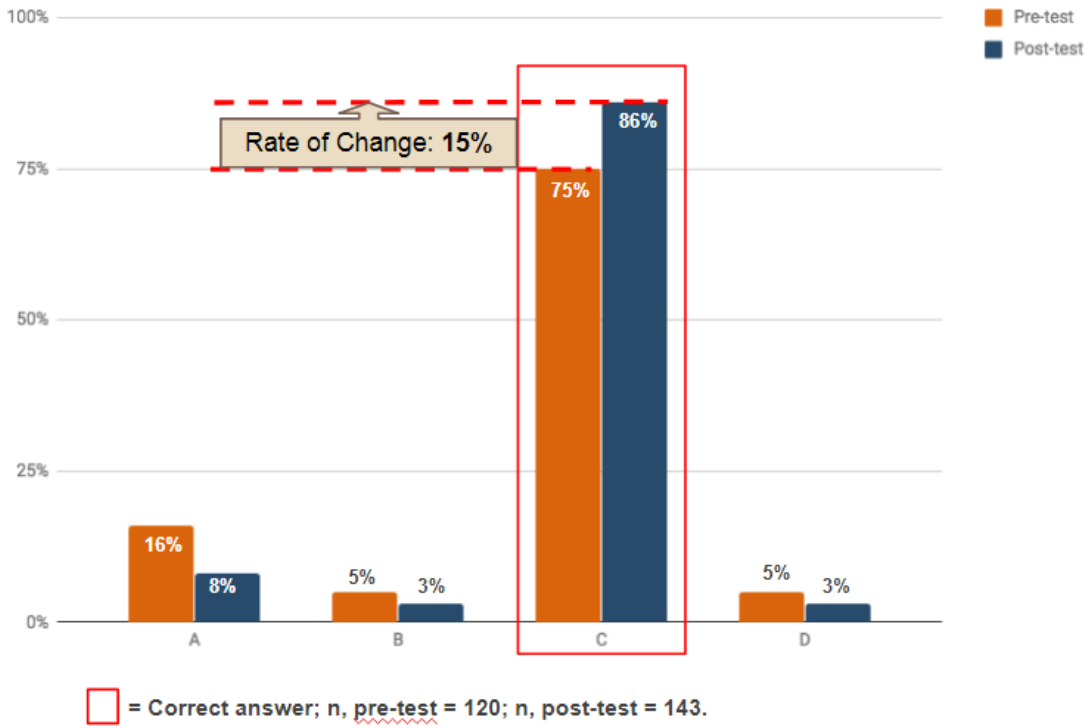E. Increase furosemide and refer for cardiac resynchronization therapy

Rate of Change: 25%

= Correct answer; n, pre-test = 179; n, post-test = 160.

Question 5 (knowledge-based)

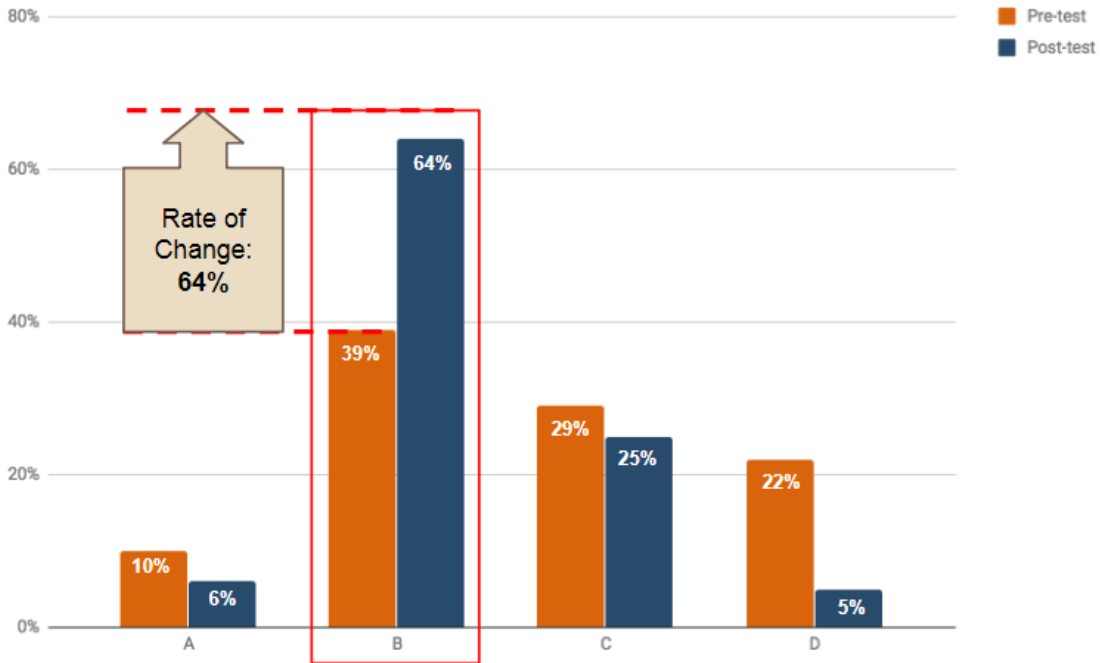How does MACRA or Quality Payment Programs (QPP) impact YOUR practice?

A. It has no effect, because we don't participate.

B. It starts in 2019, so I don't have to worry about it yet.

C. It impacts my reimbursement for Medicare patients.

D. It impacts only employed physicians.

Rate of Change: 15%

= Correct answer; n, pre-test = 120; n, post-test = 143.

Question 6 (knowledge-based)

One way I can review my prescription rates for patients with ejection fractions <40% is:

    A. Online under Hospital Compare

    B. By running a report from my EMR

    C. By looking at my MIPS Improvement activity

       (IA) scores

    D. There is no way to do this yet

Rate of Change: 64%

☐ = Correct answer; n, pre-test = 120; n, post-test = 143.