Applying the Latest Advances and Evidence of Clinical Outcomes to Individualize Heart Failure Treatment

Final Live Outcomes Report : Grant GHCCOPS-IME-848
January 25, 2017

RealCME

ABC Association of Black Cardiologists, Inc.

NACE

Executive Summary

Outcomes at Moore's Level 1-5

Emerging Challenges in Primary Care

Update 2016

City	Date
Miami, FL	April 30, 2016
Baltimore, MD	May 7, 2016
St. Louis, MO	May 14, 2016
Atlanta, GA	May 21, 2016*
Birmingham, AL	June 4, 2016
Columbus, OH	June 11, 2016
Raleigh, NC	June 25, 2016*
Tampa, FL	June 25, 2016
Denver, CO	August 13, 2016*
Sacramento, CA	August 20, 2016
Troy, MI	August 27, 2016*
Anaheim, CA	September 10, 2016
Ft. Lauderdale, FL	September 17, 2016
San Antonio, TX	September 24, 2016
Uniondale, NY	October 10, 2016*
Nashville, TN	October 15, 2016
San Diego, CA	October 22, 2016*
Houston, TX	October 29, 2016

***Simulcast and Live Conference**

Enduring Webcast launch date – October 1, 2016 – September 30, 2017

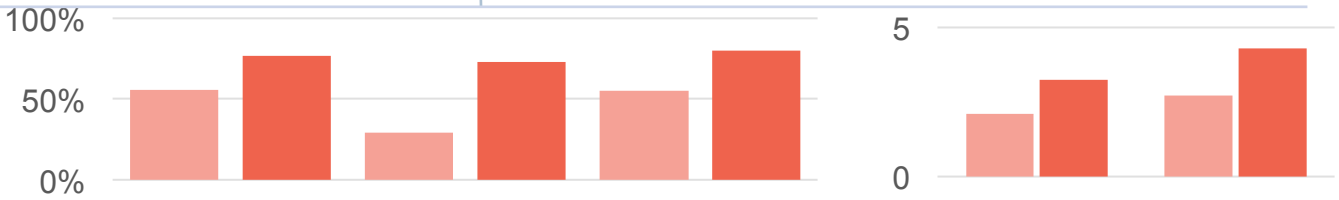
93% of Attendees are Engaged in Direct Patient Care

4,804
Total Attendees

18 Cities

3,557
On Site

1,247
Remote Simulcast



Outcome Indicator	Knowledge	Competence	RealIndex**	Confidence	Practice Strategy**
Pre-Test Avg. Score (SD)	55.46% (37.88)	29.21% (45.45)	54.83% (27.07)	2.09 (0.99)	2.70 (1.05)
Post-Test Avg. Score (SD)	76.74% (30.93)	72.87% (44.44)	79.74% (23.03)	3.25 (1.00)	4.29 (0.89)
% Change (Significance)	38.39*	149.47*	25.73*	55.02*	58.88*

*Indicates statistical significance at the p < .0005 Level. **Performance Level 5 metric (N=2443 matched learners)

Statistically significant gains were measured across the curriculum from Pre-Test (and baseline) to Post-Test (and final) in all learning domains across the intervention.

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Emerging Challenges in Primary Care
Update 2016

Data Interpretation

- Significant improvement occurred in the following areas:
  - Awareness of risk factors for heart failure in African Americans,
  - The importance of heart rate in cardiovascular risk of heart failure
  - The ability to integrate recently approved FDA treatments to optimize management of patients with heart failure

Learning Objective (Matched learners only N=2443)	Pre-Test Avg. Score (SDS)	Post-Test Avg. Score (SDS)	% Change	P - Value
Know the risk factors for heart failure and the role of biomarkers in diagnosis and treatment.	73.97% (43.65)	93.71% (21.67)	**27.00**	< .0005
Recognize the importance of heart rate in cardiovascular risk of heart failure.	47.41% (31.94)	68.26% (25.02)	**43.98**	< .0005
Utilize the most recent clinical evidence to inform decisions for the management of heart failure.	39.04% (28.73)	69.56% (31.08)	**78.18**	< .0005
Identify approaches to facilitate early recognition and optimization of heart failure management.	49.40% (23.02)	74.73% (22.69)	**51.28**	< .0005

- There was a 59% improvement in considering changes to medical therapy for patients with heart failure and a heart rate ≥70 bpm.
- There was a 55% improvement in confidence in ability to manage patients with heart failure in accordance with current guidelines and evidence.
- Moderate knowledge gaps still persist in how to appropriately initiate and utilize these therapies.

Emerging Challenges in Primary Care
Update 2016

Learners (N = 4,804) were asked to approximate the number of patients that they personally see in their practice with CHF on a weekly basis potential to impact the care

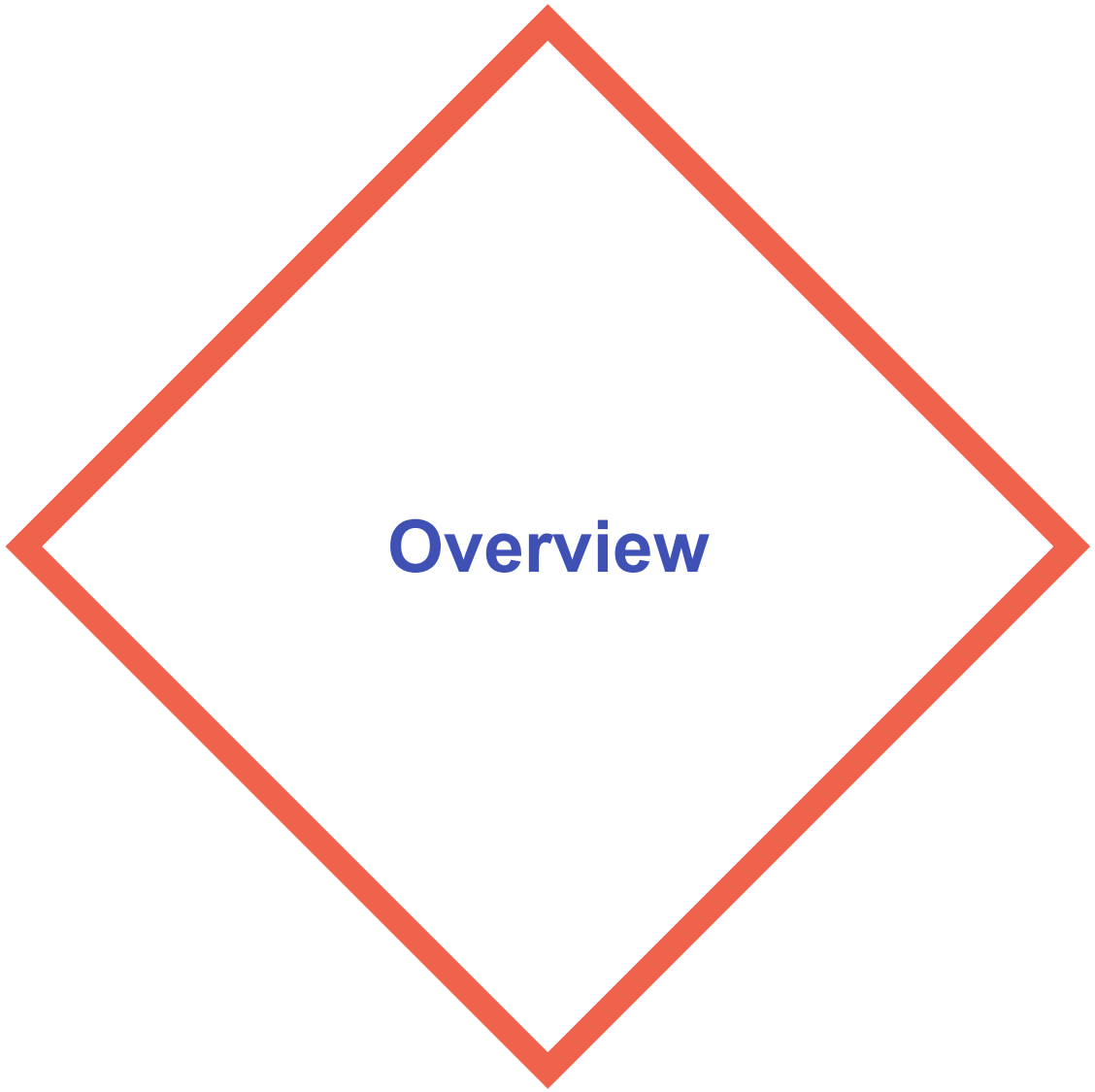
347,518-1,739,100
patients impacted
on an annual basis,

based on the assumption that 30% of patients will be seen more than once per year by their clinician

Implications for Future Education

Closing these identified gaps can be accomplished by:

- Implementing optimal program designs that would help address low confidence concerning management of HF patients by reinforcing the latest ACC/AHA/HFSA guidelines
- Discussing heart failure risk factors in patient sub-populations like African Americans.
- Emphasizing the importance of considering changes to medication therapy for patients with HF and heart rate ≥ 70 bpm
- Educating about evidence based strategies to reduce hospitalizations.


Overview

Emerging Challenges in Primary Care

Update 2016 Conference Schedule

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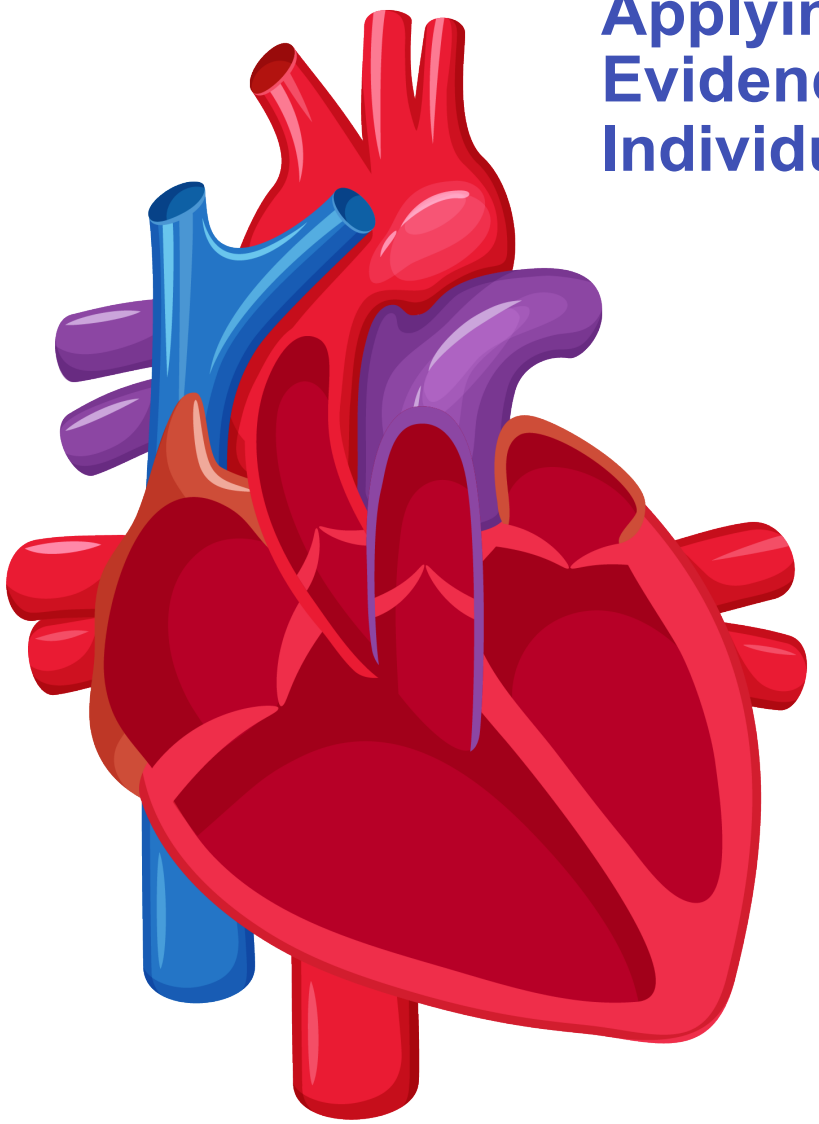


Applying the Latest Advances and Evidence of Clinical Outcomes to Individualize Heart Failure Treatment

LEARNING OBJECTIVES:

1. Know the risk factors for heart failure and the role of biomarkers in diagnosis and treatment.
2. Recognize the importance of heart rate in cardiovascular risk of heart failure.
3. Utilize the most recent clinical evidence to inform decisions for the management of heart failure.
4. Identify approaches to facilitate early recognition and optimization of heart failure management.

Level 1 (Participation)

4,804
Total Attendees

18 Cities

3,557
On Site

1,247
Remote Simulcast

92%
Provide Direct Patient Care

Did we reach the right audience? **Yes!**

Level 2 (Satisfaction)

98% rated the activity as excellent

99% indicated the activity improved their knowledge

97% stated that they learned new and useful strategies for patient care

99% said they would implement new strategies that they learned

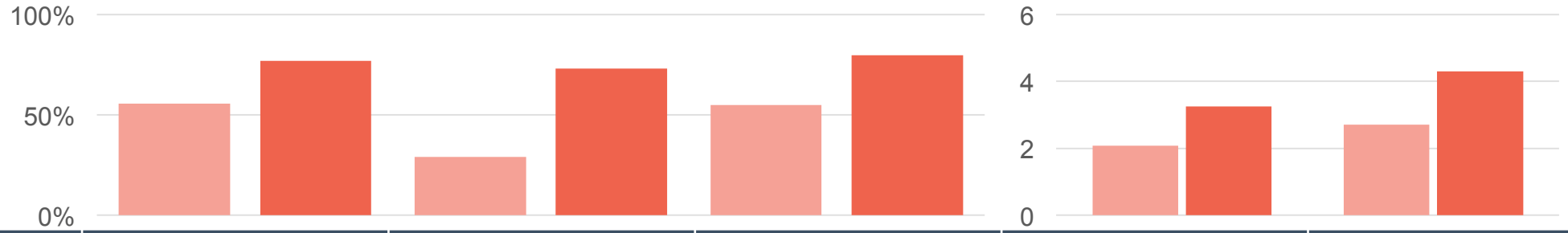
100% said the program was fair-balanced and unbiased

Were our learners satisfied? **Yes!**

Executive Summary Moore's Levels 2-5

Knowledge | **Competence** | **Confidence** | **Performance**

Statistically significant gains were measured from Pre-Test across the program, in all learning domains across. Net gains were retained at follow-up but slippage was observed.



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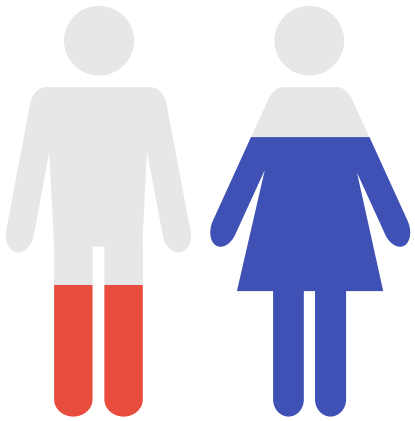
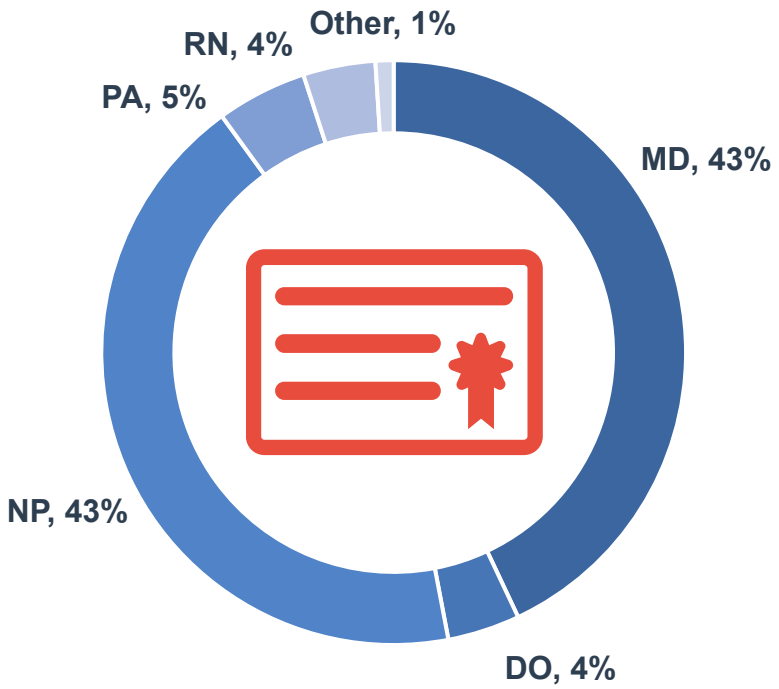
Level 1: Participation
DEMOGRAPHICS

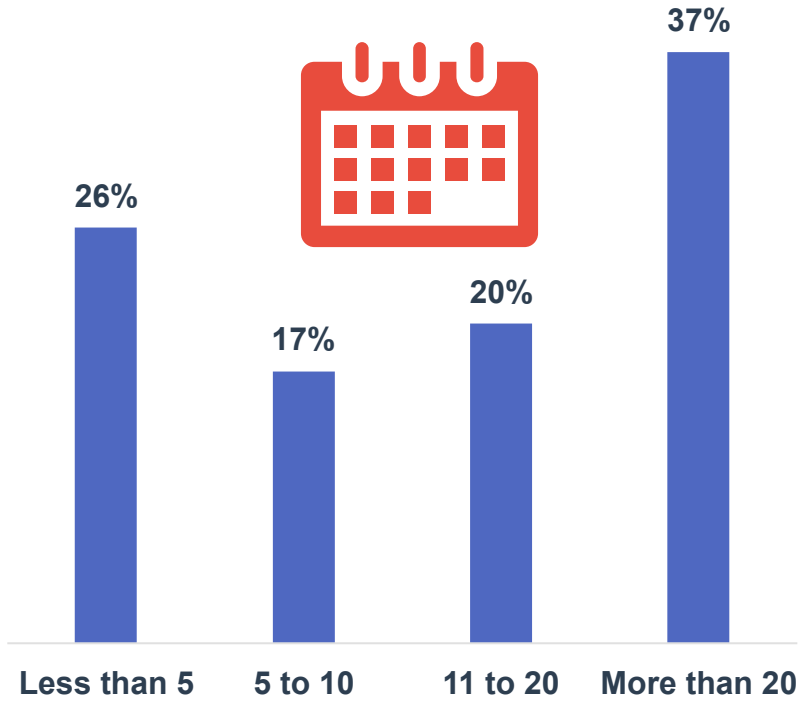
Gender



Profession

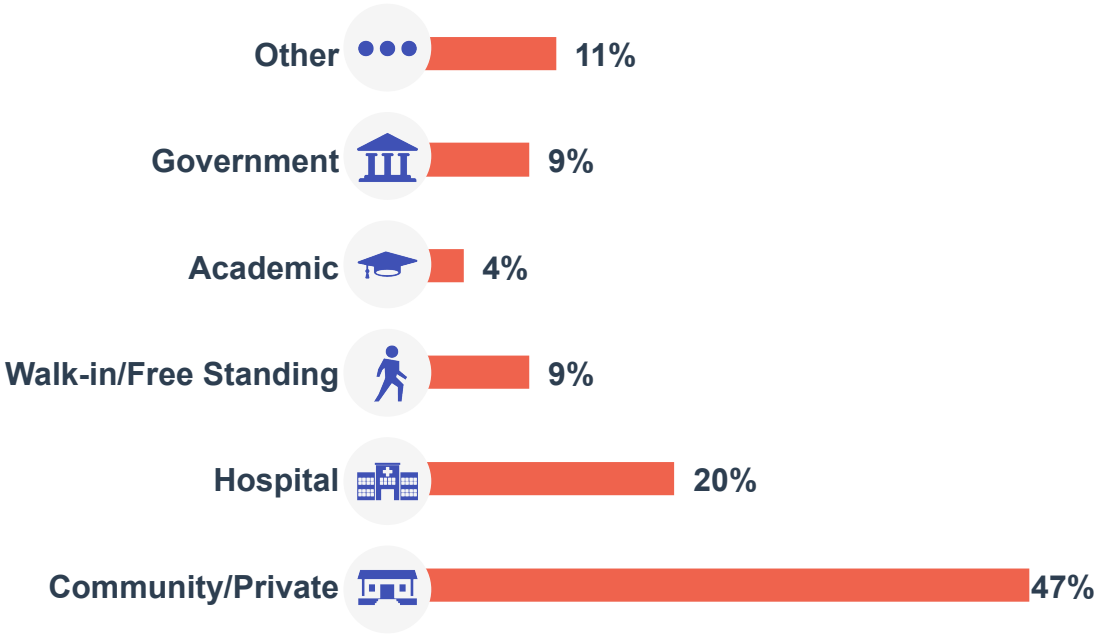


Years in Practice

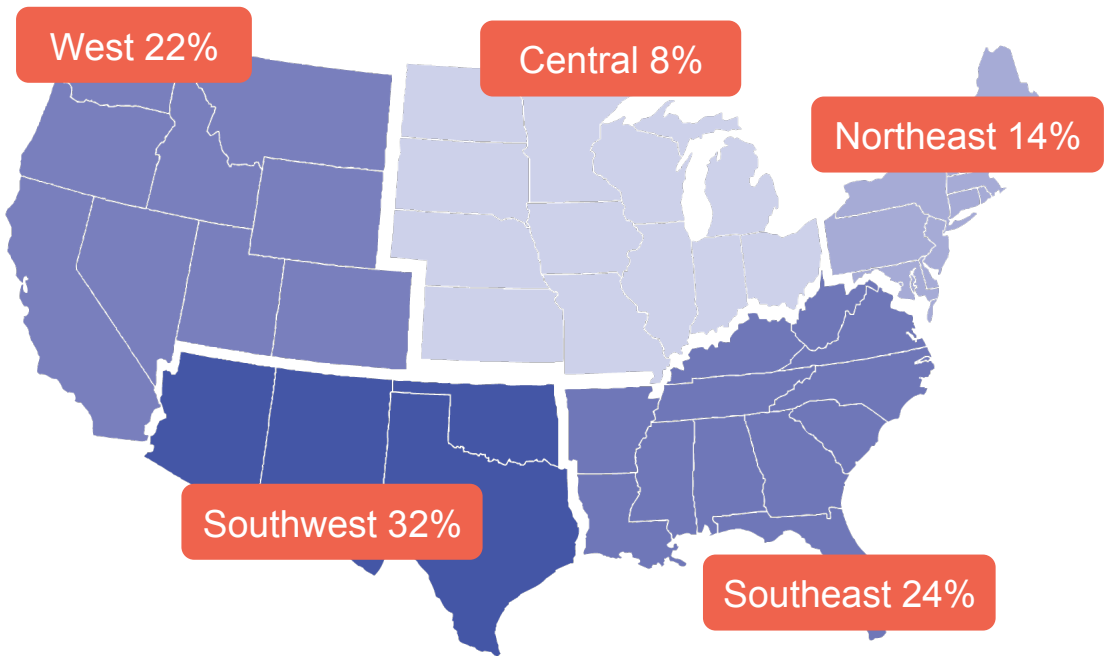


Level 1: Participation
DEMOGRAPHICS

Type of Practice

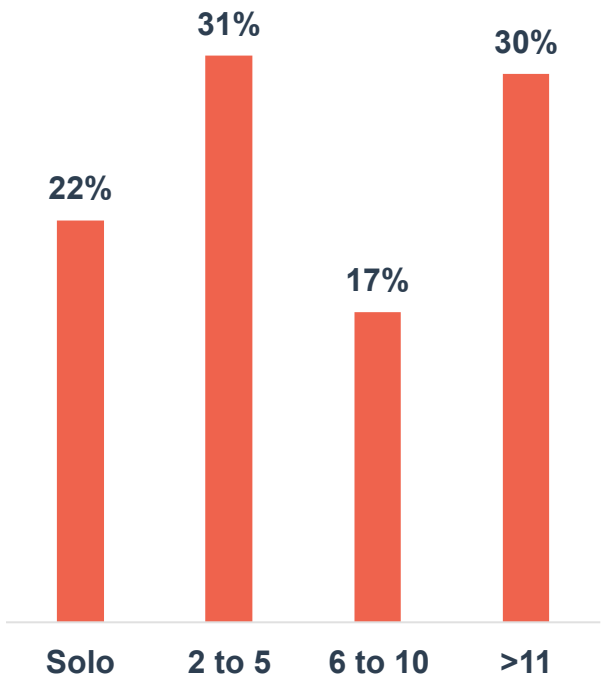


Region

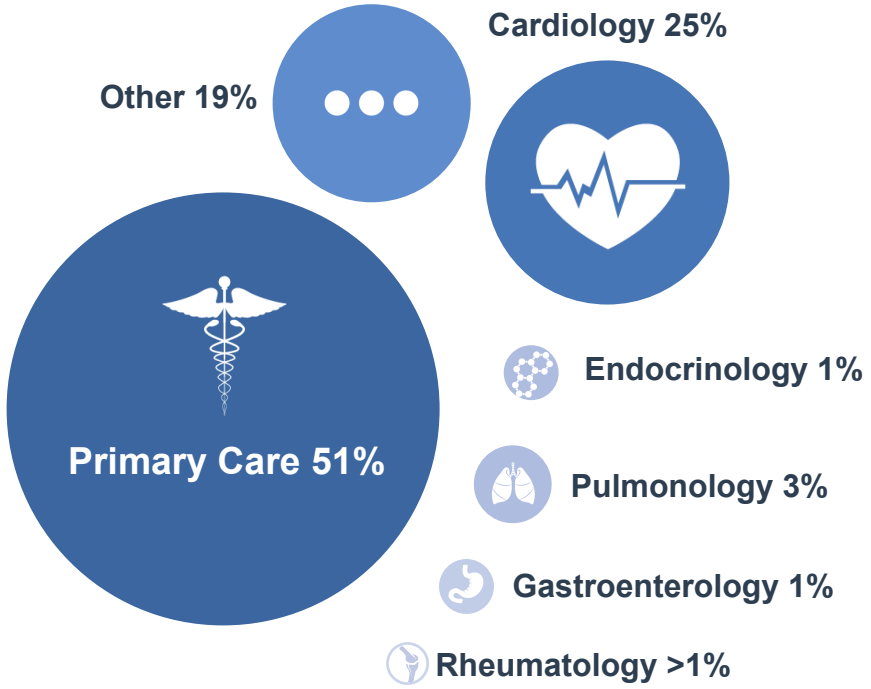


Level 1: Participation
DEMOGRAPHICS

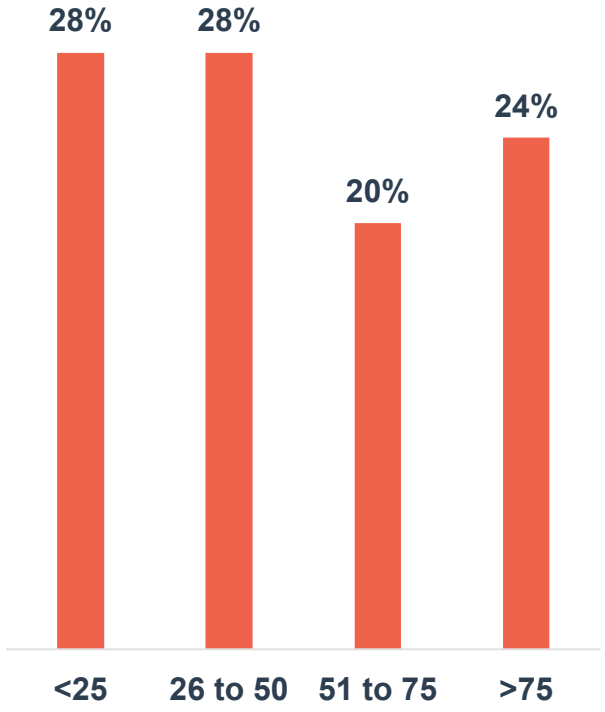
Number of Providers in Your Practice



Practice Specialty

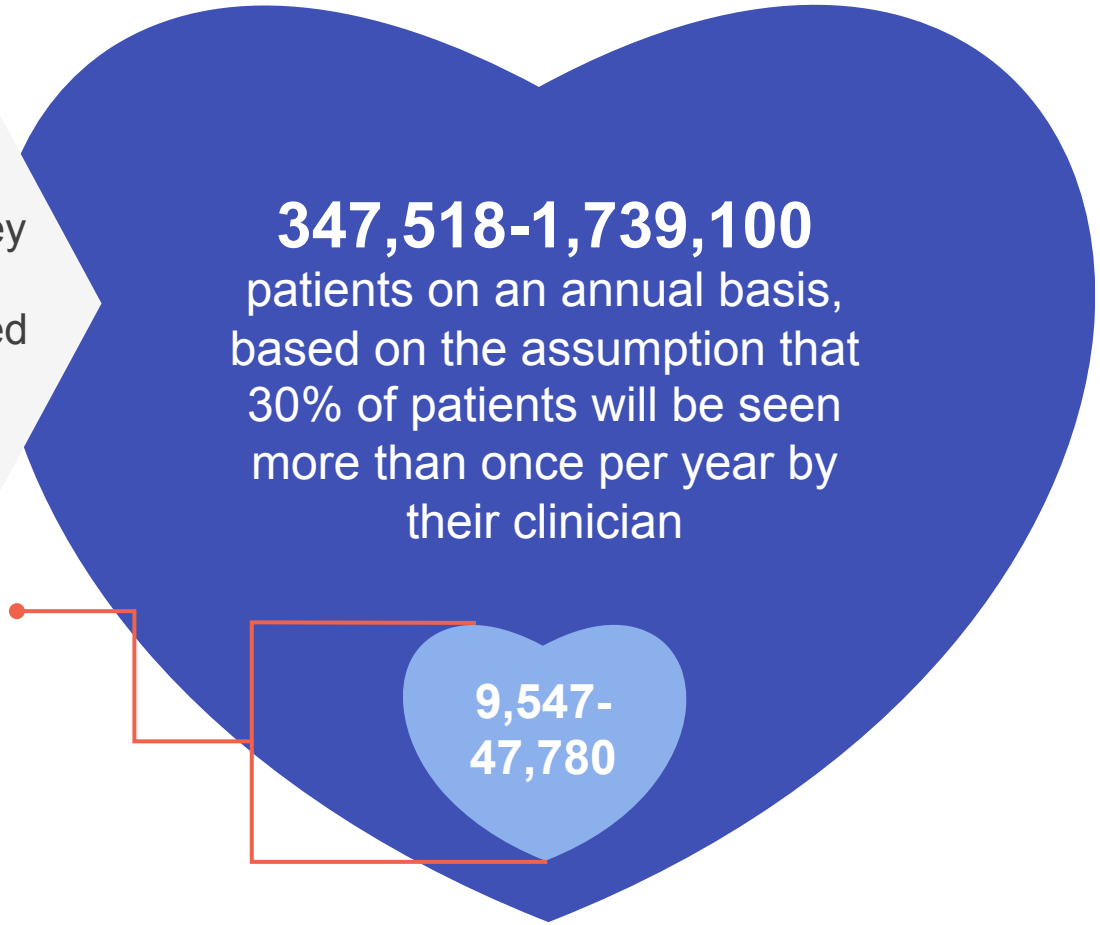


Number of Patients Seen Each Week



Curriculum Patient Impact

Learners (N = 4,804) were asked to complete an item approximating the number of patients with CHF that they personally see in their practice on a weekly basis by selecting a range. The estimated ranges were calculated and the results indicate that this curriculum has the potential to impact the care of:

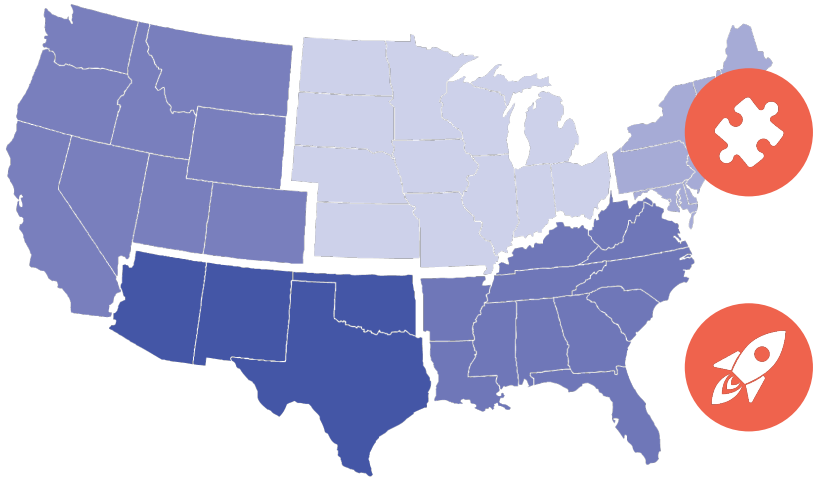


- Estimate accounts for those learners who indicated they do not currently see patients
- Estimates based upon individual learner average of approximately 2-11 CHF patients per week

Correlational Analysis with Demographic Data (Levels 1-5)

GENDER:
Women were found to have moderately higher averages in learner **performance** on all items across all learning domains.

YEAR IN PRACTICE:
More experienced clinicians (5 or more years in practice) had higher averages in **competency** and **performance**



REGION:
Learners achieved statistically significant improvements across all domains, in each city. **Competence** proved to be the most challenging item at Pre-Test with learners receiving their lowest average scores; however, learners also achieved the greatest improvements on **Competence** at Post-Test with gains exceeding more than 100% in every city.

These gains in Competence resulted in learners achieving scores comparable with **performance** in other domains, thus demonstrating the efficacy of this curriculum for bridging gaps in learner competency.

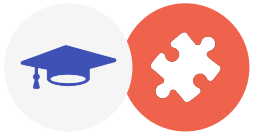
Correlational Analysis with Demographic Data (Levels 1-5)

NUMBER OF CLINICIANS:
2 to 10 Clinicians - highest learning domain averages by Post-Test

NUMBER OF PATIENTS SEEN IN A WEEK:
Learners who see more patients are more performed with more mastery across all domains

TYPE OF PRACTICE:

Government-based practices – Moderately higher averages by Post-Test in **knowledge**



Academic institutions – Modestly higher levels of **competency**

Practices devoted primarily to patient care – Substantially higher scores across **all** learning domains

Summary of Outcomes Analyses (Levels 1-5)

Statistically significant gains were measured across the curriculum from Pre-Test (and baseline) to Post-Test (and final) in all learning domains across the intervention.

- Gains were also measured, by city, across the learning domains and substantial gains were observed from Pre-Test to Post-Test on all Learning Objectives identified by the curriculum.
- Cohort differences in performance were observed and measured, based on demographic variables analyzed.

Retention was evaluated four weeks post-curriculum. Learners' performance, at follow-up, is **indicative of sustained levels of retention** across all domains.

- Slippage ranging from 10-34% was observed for all domains.

Summary of Gap Analysis

A persistent **learning gap related to treatment selection/medication management was identified**, present across learning domain categories:

Knowledge

41% of learners answered incorrectly concerning **Knowledge** of the efficacy of a specific therapeutic intervention for heart-rate reduction (i.e., ivabradine) in the management of CHF, as reported in the SHIFT trial.

Performance Behavior

Performance behavior related to medication management presented in the patient vignette (the RealIndex) in which learners were asked to select clinical decisions that were either consistent or not consistent with their current practice approach. Nearly 30% of learners incorrectly indicated that they would "initiate ivabradine," for the presented patient with a HR of 66, at Post-Test.

Competency

Competency around medication management for a patient presenting with CHF. While 73% of learners selected the correct next-step in managing the presented patient's regimen (discontinue lisinopril and initiate sacubitril/valsartan), 29% selected an incorrect management decision (i.e., initiate ivabradine, maintain current regimen) as their response.

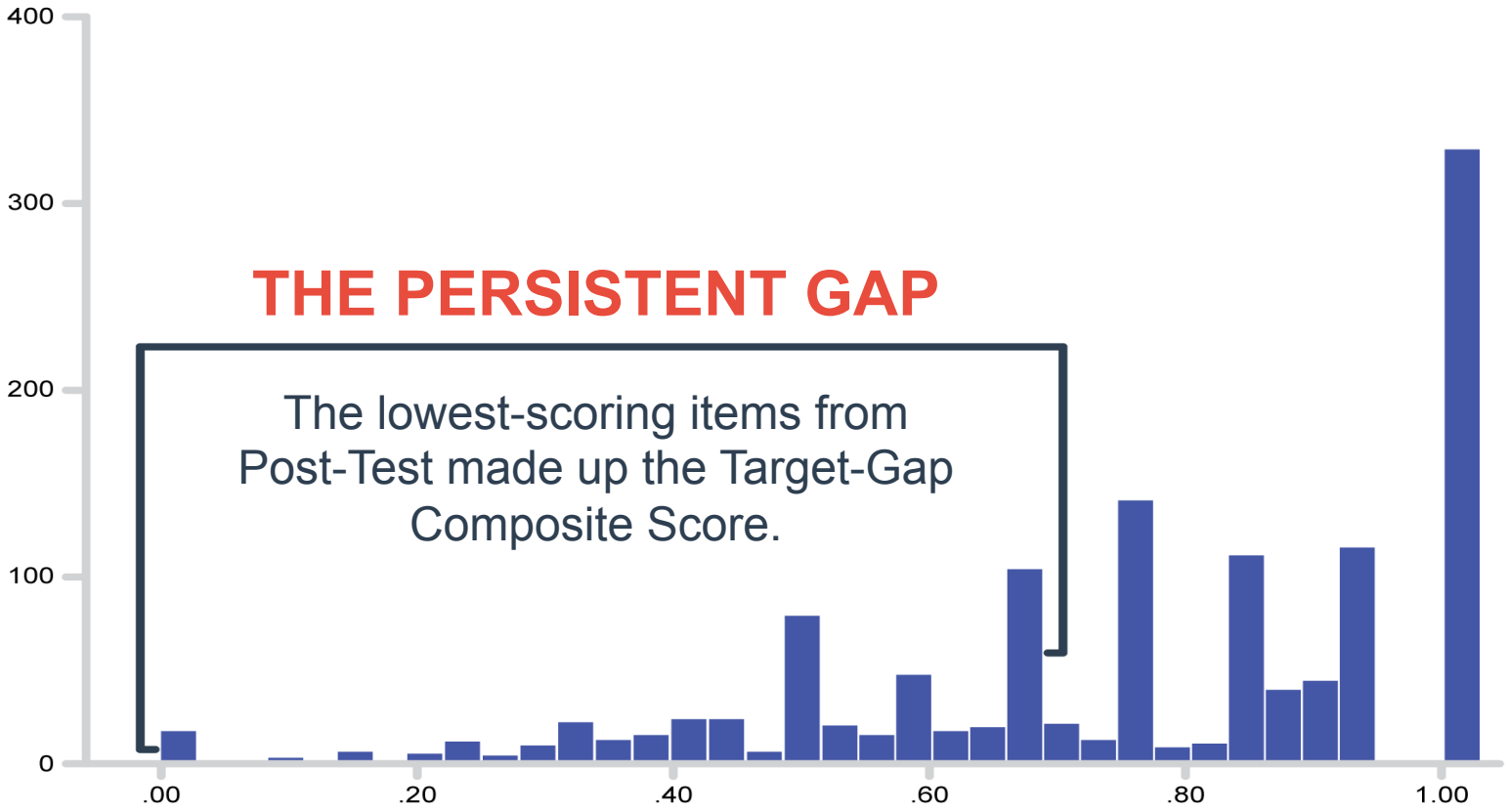
Performance Behavior

Performance behavior (also from the patient vignette) related to medication management. 26% of learners indicated that they would not, "switch (the presented) patient from valsartan to sacubitril/valsartan," which was an incorrect response.

These learning gaps were also observed at the four week, post curriculum, follow-up. Moderate average Confidence ratings across the program, related to the management of patients with heart failure in accordance with guidelines and evidence, correlate with this identified gap and suggest that these learners have awareness of their deficits in this area.

The Target Gap Score

In order to identify the specific drivers responsible for this gap, a composite target-gap score was created to model against.



- **Knowledge**
- **Competency**
- **Performance**

Related to treatment selection/medication management

The Model: Identifying Significant Drivers

10 statistically significant drivers were identified, accounting for nearly 70% of the variance in the data:

- City
- Performance
- Practice Strategy
- Confidence
- Assessment and Panning
- Medication Management (SOB w/exertion)
- Years in Practice
- Specialty
- Knowledge
- Number of Patients Seen

All questions across the learning domains, as well as learner demographics were analyzed to identify positive and/or negative predictors of learners' target (or gap).

The CHF Model

Strong Moderate Modest

- Confidence: Medication Management
- City
- Assessment & Planning
- Years in Practice
- Number of PT's Seen Per Week

The Target Gap

Treatment selection/ Medication management

Close the Gap & increase learner Proficiency in this area by an average of 20%

- Performance Behavior: Medication Management
- Medication Management (SOB w/exertion)
- Practice Strategy
- Specialty
- Knowledge

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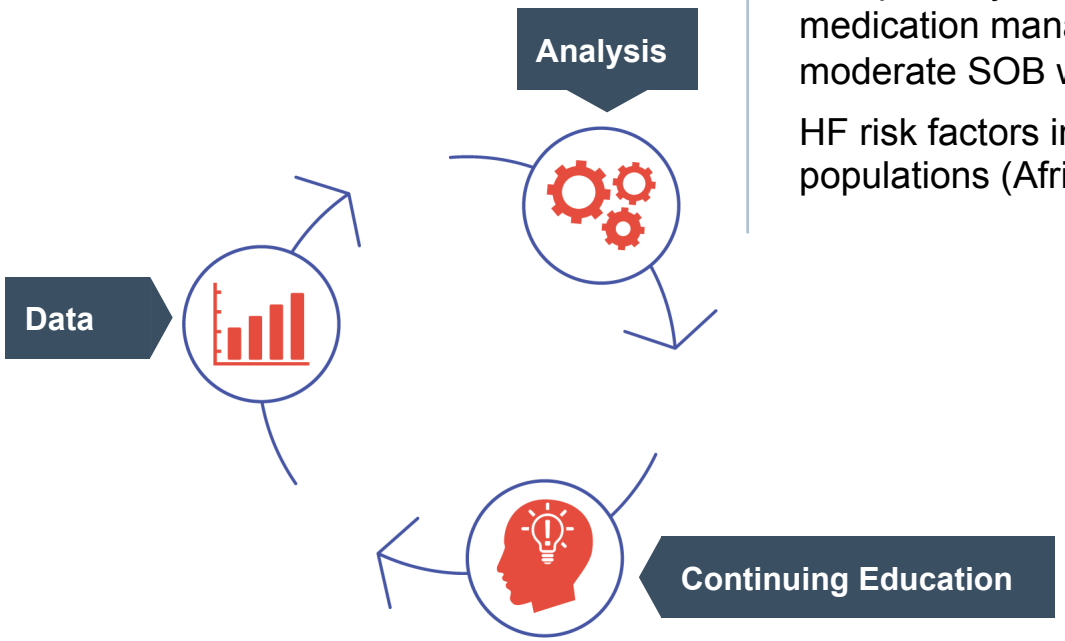
CHF Application of Findings

Demographic Targeting

Geographic targeting (Tampa, Atlanta, Baltimore, Miami, St. Louis) for both online and educational activities

Years in practice (5-10 years)



Content Focus

Medication management and treatment selection for CHF patients

Patient assessment and treatment planning prioritization

Competency concerning medication management for moderate SOB with exertion

HF risk factors in patient sub-populations (African Americans)

Demographic Targeting

Demonstrate proficiency through serial reinforcement to address low Confidence concerning management of HF patients according to guidelines and evidence

Implement a “Missed Opportunity” approach to emphasize the importance of considering changes to medication therapy for patients with HF and heart rate ≥ 70 bpm

Prioritization and/or ranking exercises (pt. “work-up”) to address lack of mastery concerning assessment and treatment planning/prioritization

Utilize a “Missed Opportunity” approach to address lesser proficiency of learners seeing >75 patients per week, by presenting a scenario demonstrating what might be missed due to time limitations.

Incorporate a “What If” patient scenario presenting HF risk factors in an African American patient to reinforce knowledge