Despite current therapies, many physicians are treating heart failure (HF) with β-blockers, but only 40% (n=22) of patients were achieving 90% of the therapeutic target dose.

The activity included a transcript of the discussion that occurred during the live session, which highlighted the importance of understanding the mechanisms of β-blocker therapy and how they can be used to optimize patient outcomes.

The primary endpoint was all-cause mortality and all-cause hospitalization. The secondary endpoints were a composite of mortality or hospitalization, and death from any cause. The results showed a statistically significant reduction in the primary endpoint for patients on β-blocker therapy compared with those on placebo.

In a patient with HF, the presence of tachycardia can be a compensatory mechanism to maintain cardiac output in a very dilated heart. However, physicians often overlook heart rate as a prognostic marker and as a therapeutic target, leading to detrimental outcomes.

The activity reinforced key data and provided a downloadable slide deck to highlight and facilitate the learning experience for physicians.

## RESULTS

**TABLE 1. Summary Statistics**

<table>
<thead>
<tr>
<th>Marks</th>
<th>Cardiologists</th>
<th>PCPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Assessment</td>
<td>Post-Assessment</td>
<td>Pre-Assessment</td>
</tr>
<tr>
<td>Sample Size</td>
<td>56</td>
<td>56</td>
</tr>
<tr>
<td>Meen (Correct Answer)</td>
<td>1.46</td>
<td>1.28</td>
</tr>
<tr>
<td>Standard Error</td>
<td>0.05</td>
<td>0.13</td>
</tr>
<tr>
<td>Median (Correct Answer)</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.06</td>
<td>0.14</td>
</tr>
<tr>
<td>Sample N</td>
<td>176</td>
<td>178</td>
</tr>
<tr>
<td>Effect Size</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>P Value</td>
<td>—</td>
<td>&lt;.0001</td>
</tr>
</tbody>
</table>

P values <.05 are statistically significant as a measure of significance; P values ≥.05 are not statistically significant.

**CONCLUSIONS**

The statistically significant improvements observed as a result of participation in this online CME intervention demonstrate that effective Internet-based education can improve knowledge and competence of physicians related to management of HF.

However, cardiologists and PCPs continued to demonstrate a need for further education on:

- Understanding the functions of the “funny” channel
- The underlying pathophysiology and implications of persistent elevated heart rate
- The benefits of addressing elevated heart rate in patients with HF

## METHODS

### METHODS

An online CME activity was developed as a 25-minute, multiple-choice online test. Leading experts on the role of heart rate as a therapeutic target in HF were invited to participate in a virtual panel discussion. The activity included a transcript of the discussion and a downloadable slide deck to highlight and reinforce key data.

The effects of education were assessed using a pre/post-assessment study design in which questions assessed clinical knowledge.

For all questions combined, the McNemar’s chi-square test was used to assess differences from pre- to post-assessment. Effect size was calculated as a measure of significance. P values < .05 are statistically significant.

Cohens d was used to calculate the effect size (d=0.0; d=0.0-0.1; d=0.1-0.4; d=0.4-0.5)

The activity launched on September 24, 2014; data were collected through January 21, 2016.

## ACKNOWLEDGMENTS

This CME-certified activity was supported by an independent educational grant from Amgen Inc.

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## REFERENCES

5. McMurray JJV, Adamopoulos S, Anker SD, et al. ESC guidelines for the diagnosis and treatment of acute and chronic heart failure 2012: the Task Force for the Diagnosis and Treatment of Acute and Chronic Heart Failure of the European Society of Cardiology. Eur Heart J 2012;33:1787-847.

## FIGURE 1. Percent of Participants with Correct Response by Question (Pre- and Post-Assessment Questions)

- **Cardiologists**
  - Pre-Assessment: 40% (n=55)
  - Post-Assessment: 58% (n=74)*
  - Effect Size: 1.93
  - P Value: <.0001

- **PCPs**
  - Pre-Assessment: 20% (n=74)
  - Post-Assessment: 58% (n=74)*
  - Effect Size: 1.67
  - P Value: <.0001

*Correct answer is highlighted in blue.