



# CONVERSATIONS IN PRIMARY CARE

2017



Live Virtual Conferences

## **Challenges in Hypertension: Incorporating Evolving Clinical Data into Practice**

**Final Outcome Report**

**1 Live Virtual Conference on March 25, 2017**

Report Date: May 12, 2017

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# Course Accreditation

The National Association for Continuing Education is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The National Association for Continuing Education designates this live activity for a maximum of *4.0 AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

National Association for Continuing Education is approved as a provider of nurse practitioner continuing education by the American Association of Nurse Practitioners. AANP Provider Number 121222. This program has been approved for 4 contact hours of continuing education.\*

\* This applies to the entire CME activity entitled Conversations in Primary Care





# Commercial Support

Conversations in Primary Care: 2017 series of CME activities were supported through educational grants or donations from the following companies:

Arbor Pharmaceuticals  
Bayer HealthCare  
Boehringer Ingelheim Pharmaceuticals, Inc.  
Lilly USA, LLC  
Shire



# Dates and Times

## Conversations in Primary Care: Update 2017 Live Virtual Conference Schedule

February 11, 2017  
10:00am – 2:30pm

March 4, 2017  
10:00am – 2:30pm

**March 25, 2017**  
**10:00am – 2:30pm**

\* **Bolded** cities are where the lecture was given

# Titles of Presentations

- Adult ADHD in Primary Care: Addressing Unmet Needs
- Recognition and Management of Idiopathic Pulmonary Fibrosis: The Role of Primary Care
- Atrial Fibrillation: Reducing Risk and Individualizing Therapeutic Choices
- Legalize it? A Clinician's Guide to Medical Marijuana
- Getting Comfortable with SGLT-2 Therapy: New Insights
- **Challenges in Hypertension: Incorporating Evolving Clinical Data into Practice**
- Leaning in to LARCs; Long Acting Reversible Contraception Options

# Levels of Evaluation

Consistent with the policies of the ACCME, NACE evaluates the effectiveness of all CME activities using a systematic process based on Moore's model. This outcome study reaches Level 5.

- Level 1: Participation
- Level 2: Satisfaction
- Level 3: Declarative and Procedural Knowledge
- Level 4: Competence
- Level 5: Performance
- Level 6: Patient Health
- Level 7: Community Health

# Level 1: Participation

- 412 attendees on March 25, 2017
- 24% Physicians; 72% NPs or PAs; 2% RNs; 2% Other
- 44% in community-based practice
- 84% PCPs, 3% Cardiologist; 4% Hospitalist; 5 Other or did not respond
- 95% provide direct patient care

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

# Level 2: Satisfaction

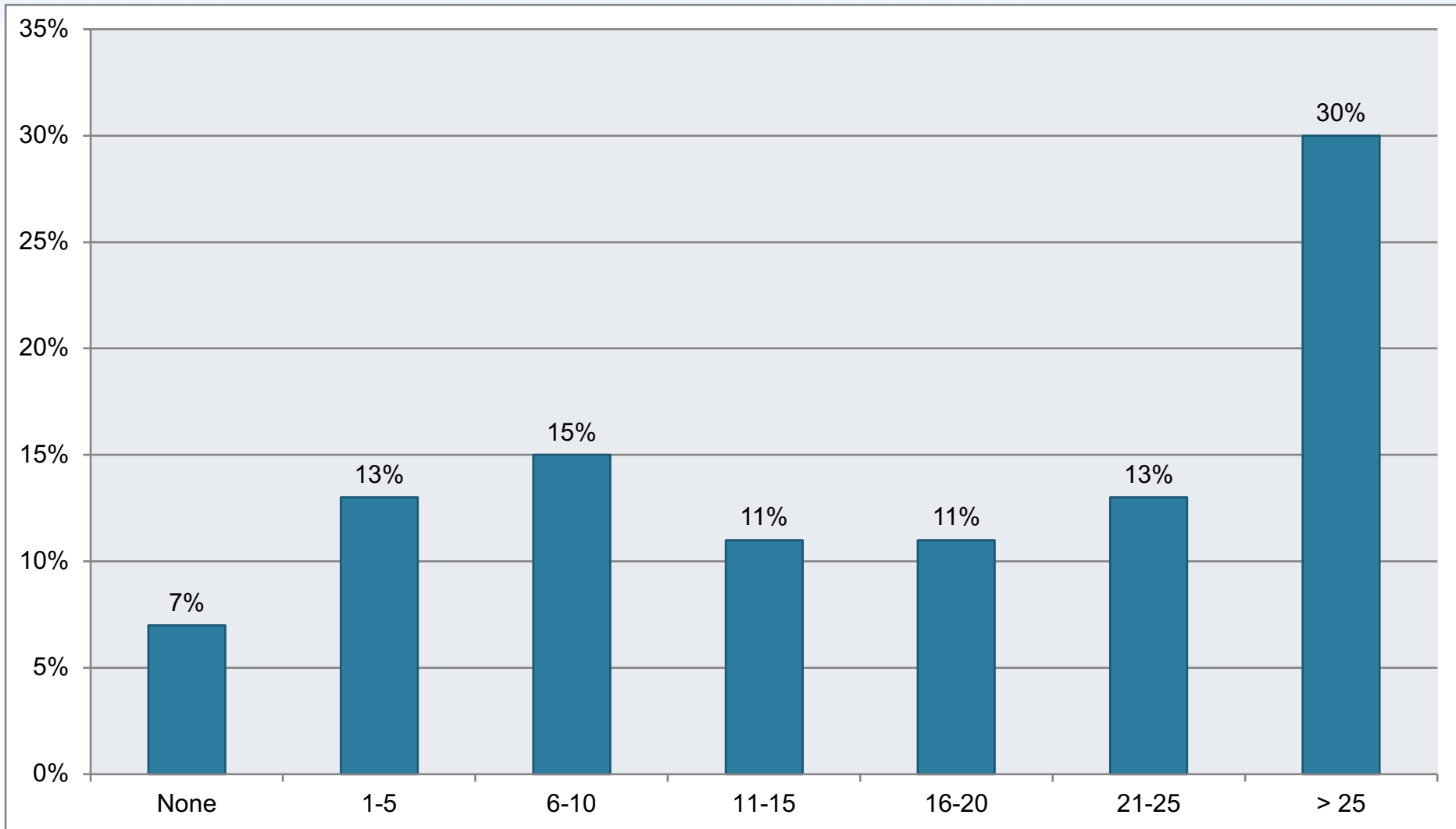
- 99% rated the activity as excellent
- 98% indicated the activity improved their knowledge
- 96% stated that they learned new and useful strategies for patient care
- 94% said they would implement new strategies that they learned in their practice
- 100% said the program was fair-balanced and unbiased

Sample Size: N = approximately 412

Were our learners satisfied? **Yes!**

# Challenges in Hypertension: Incorporating Evolving Clinical Data into Practice

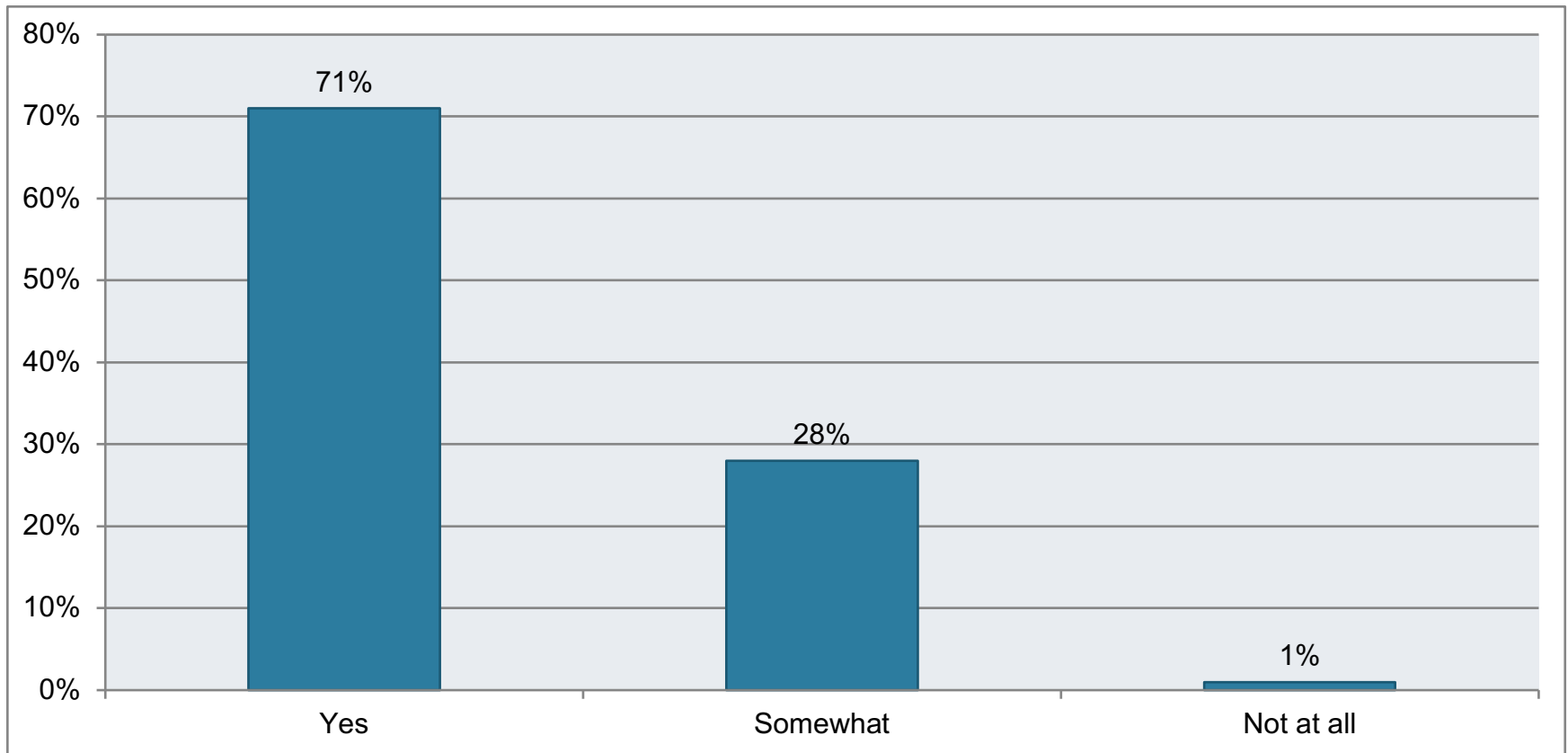
Patients seen each week in a clinical setting with hypertension:



Sample Size: N = approximately 412

## Did Learners Say They Achieved Learning Objective?

**Upon completion of this activity, I can now** – Recognize the evolving epidemiology and control rates of hypertension; Review proper blood pressure (BP) measurement technique and the role of office, home, and 24-hour ambulatory blood pressure measurement in everyday clinical practice; Discuss the impact of recent trials and recommendations on evolving blood pressure treatment goals; Recognize current recommendations for first-line agents in the treatment of hypertension.



**Yes! 99% believed they did.**



# Outcome Study Methodology

## Goal

To determine the effect this CME activity had on learners with respect to competence to apply critical knowledge, confidence in treating patients with diseases or conditions discussed, and change in practice behavior.

## Dependent Variables

### 1. Level 3-5: Knowledge, Competence, and Performance

Case-based vignettes and pre- and post-test knowledge questions were asked with each session in the CME activity. Identical questions were also asked to a sample of attendees 4 weeks after the program to assess retention of knowledge. Responses can demonstrate learning and competence in applying critical knowledge. The use of case vignettes for this purpose has considerable predictive value. Vignettes, or written case simulations, have been widely used as indicators of actual practice behavior.<sup>1</sup>

### 2. Practitioner Confidence

Confidence with the information relates directly to the likeliness of actively using knowledge. Practitioner confidence in his/her ability to diagnose and treat a disease or condition can affect practice behavior patterns.

### 3. Level 5: Self-Reported Change in Practice Behavior

Four weeks after CME activity, practitioners are asked if they changed practice behavior.

1. Peabody, J.W., J. Luck, P. Glassman, S. Jain, J. Hansen, M. Spell and M. Lee (2004). Measuring the quality of physician practice by using clinical vignettes: a prospective validation study. *Ann Intern Med* 14(10): 771-80.



# Challenges in Hypertension: Incorporating Evolving Clinical Data into Practice

## Faculty

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Ralph H. Johnson VA Medical Center

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### Learning Objectives

1. Recognize the evolving epidemiology and control rates of hypertension
2. Review proper blood pressure (BP) measurement technique and the role of office, home, and 24-hour ambulatory blood pressure measurement in everyday clinical practice
3. Discuss the impact of recent trials and recommendations on evolving blood pressure treatment goals
4. Recognize current recommendations for first-line agents in the treatment of hypertension



## Key Findings

### Challenges in Hypertension: Incorporating Evolving Clinical Data into Practice

Knowledge/Competence	Learners demonstrated improvement from pre to post-testing in their answers to <i>all five</i> of the case-based questions regarding approach to treating patients with hypertension, four of which achieved statistical significance.
Confidence	Whereas the majority of learners rated themselves as having low to moderate confidence in the management of patients with hypertension before the education, most of the learners showed significant gains in confidence after the program.
Intent to Perform	As a result of this program, 94% of learners state they are likely to implement the strategies for the diagnosis and/or management of patients with hypertension taught in this program.
Change of Practice Behavior  4 Weeks Post N= 158	93% of learners who responded to our four week survey indicated that they had changed their practice behavior to implement the learning objectives of this program within four weeks after attending the activity. 

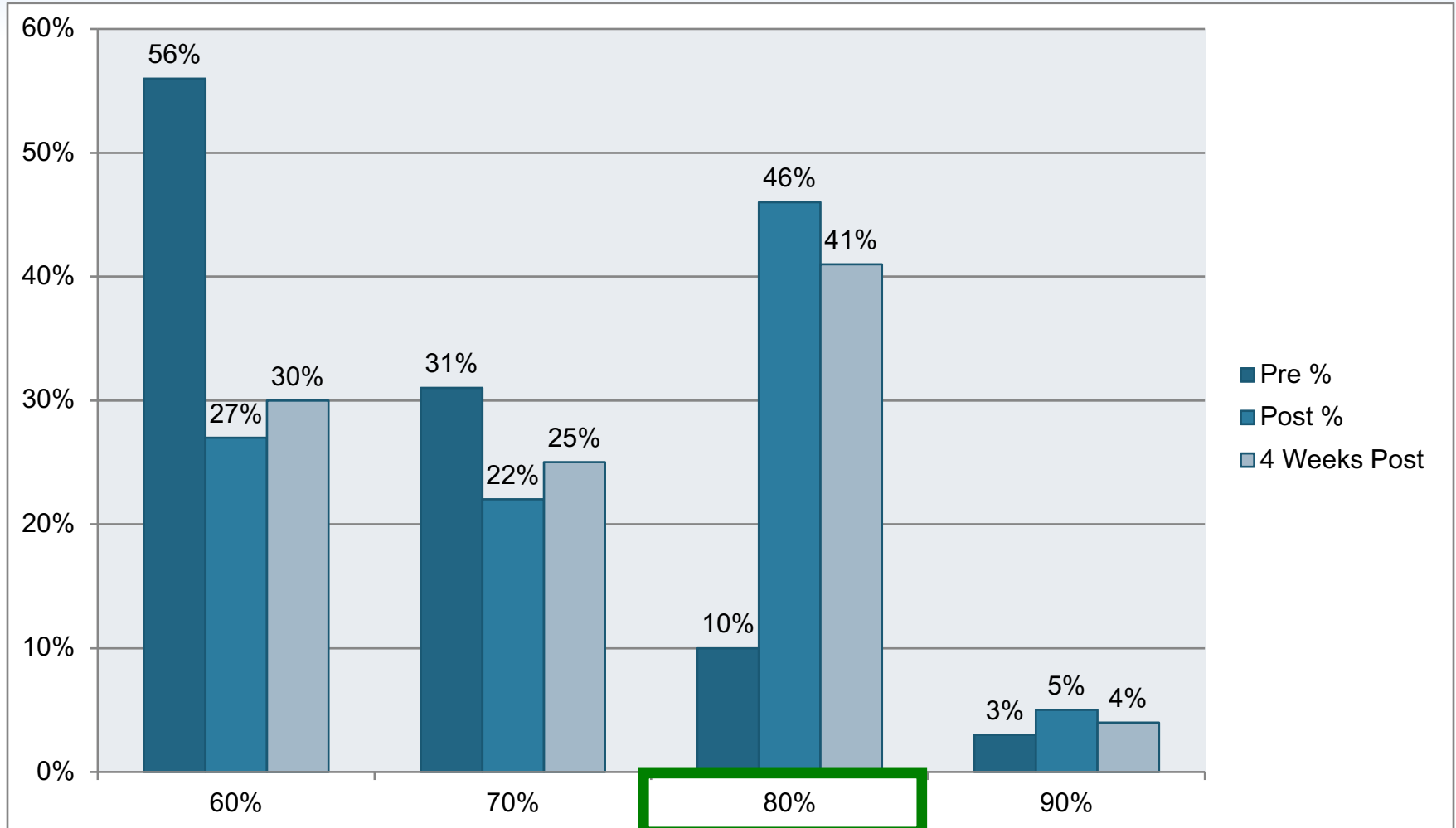
# Case Vignette Knowledge and Competence Assessment Questions

(presented pre-post lecture, and after 4 weeks —boxed answer is correct)

**A recent study from Kaiser Permanente reported BP control to <140/90 mmHg in as much as what proportion of patients?**

(Learning Objective 1)

Pre-Post P Value:< 0.001 – Significant

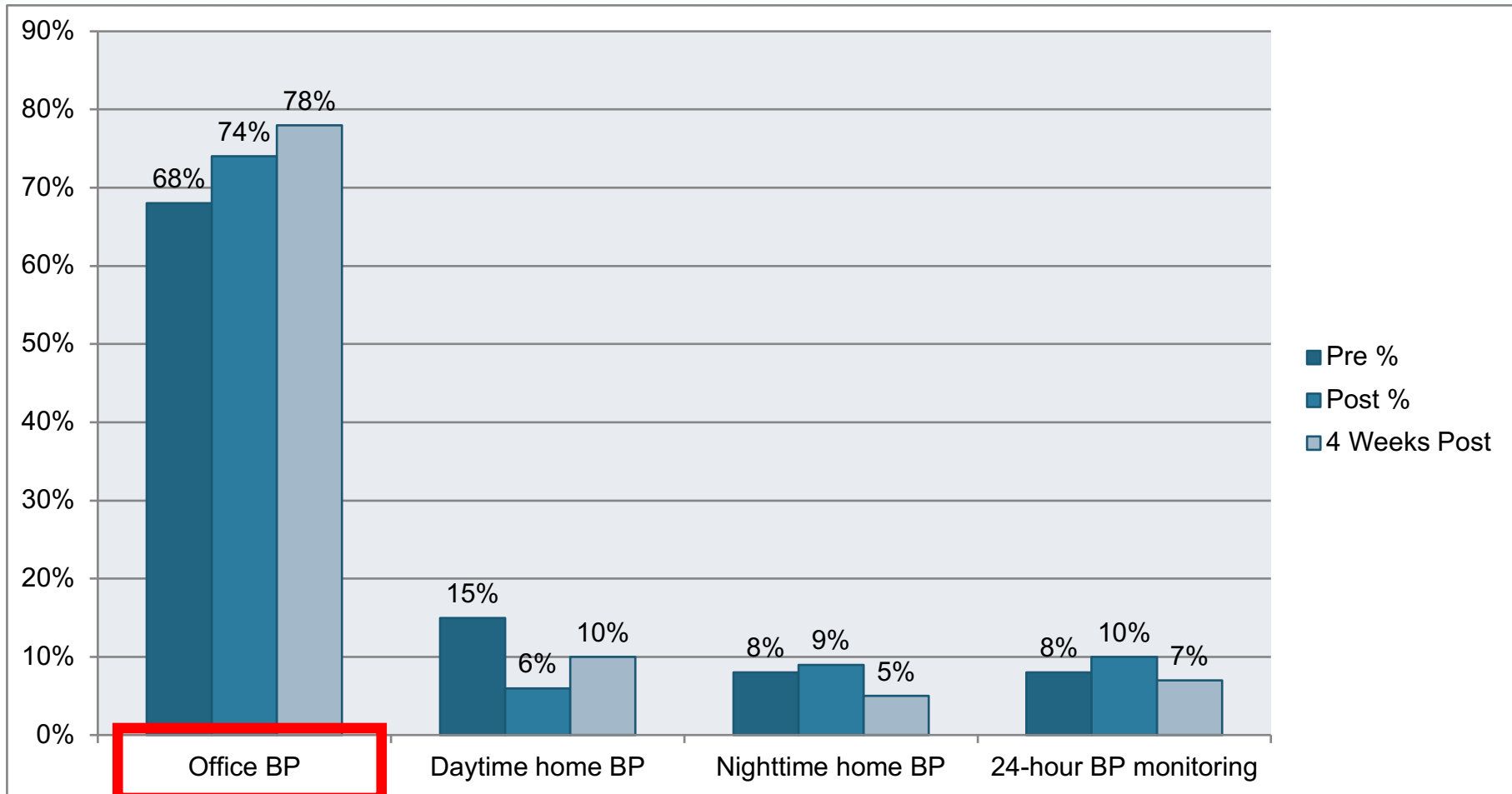


# Case Vignette Knowledge and Competence Assessment Questions

(presented pre-post lecture, and after 4 weeks —boxed answer is correct)

**Of the following BP measurements, which demonstrates the lowest correlation with clinical outcomes?** (Learning Objective 2)

Pre-Post P Value: 0.187 – Not Significant



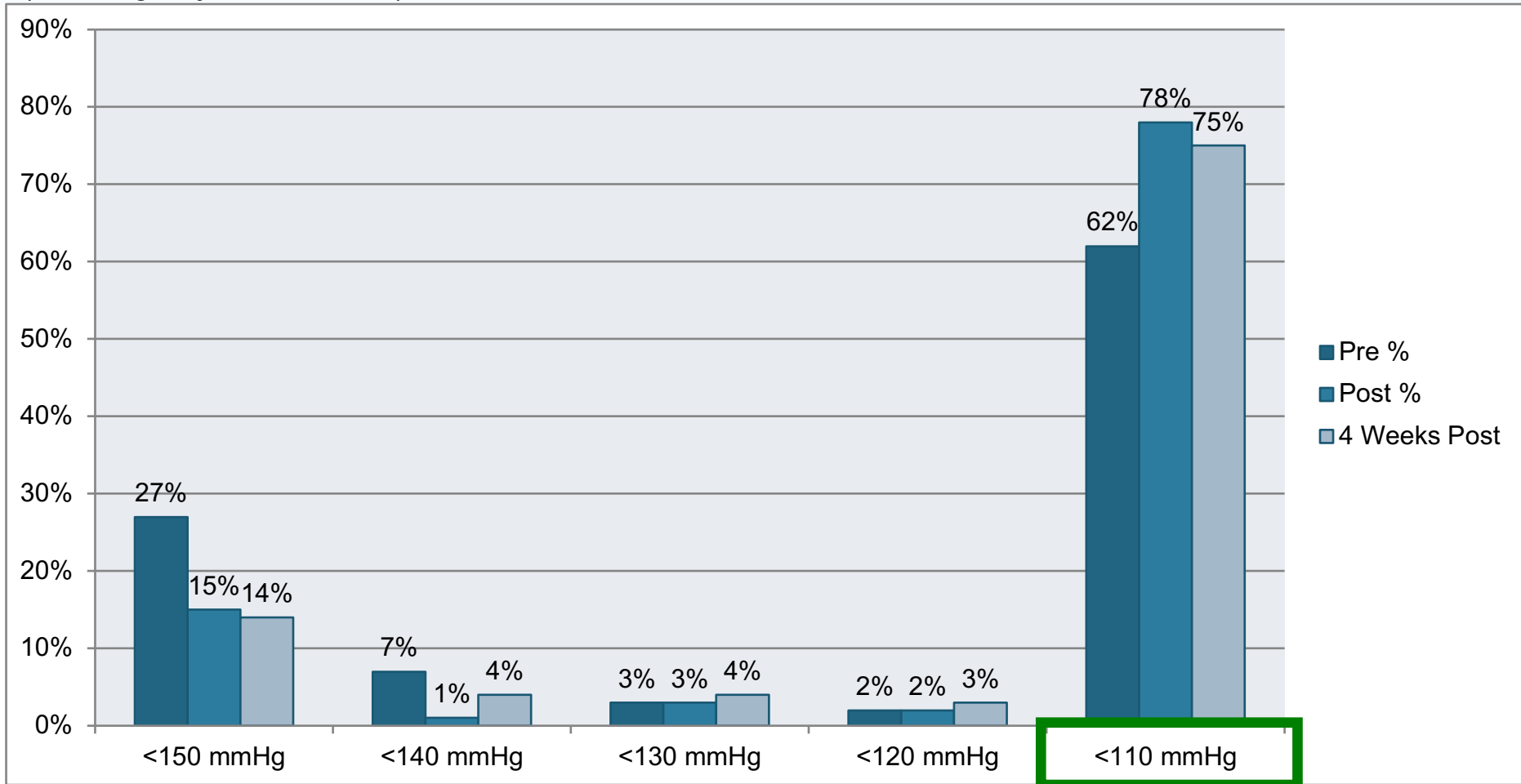
# Case Vignette Knowledge and Competence Assessment Questions

(presented pre-post lecture, and after 4 weeks —boxed answer is correct)

Recently recommended systolic BP targets in various at-risk populations include all of the following, **EXCEPT**:

(Learning Objective 2 and 3)

Pre-Post P Value: < 0.001 – Significant



Pre N = 207 Post N = 209 4 Weeks Post N = 158

Green highlight indicates significant difference between pre and post testing.

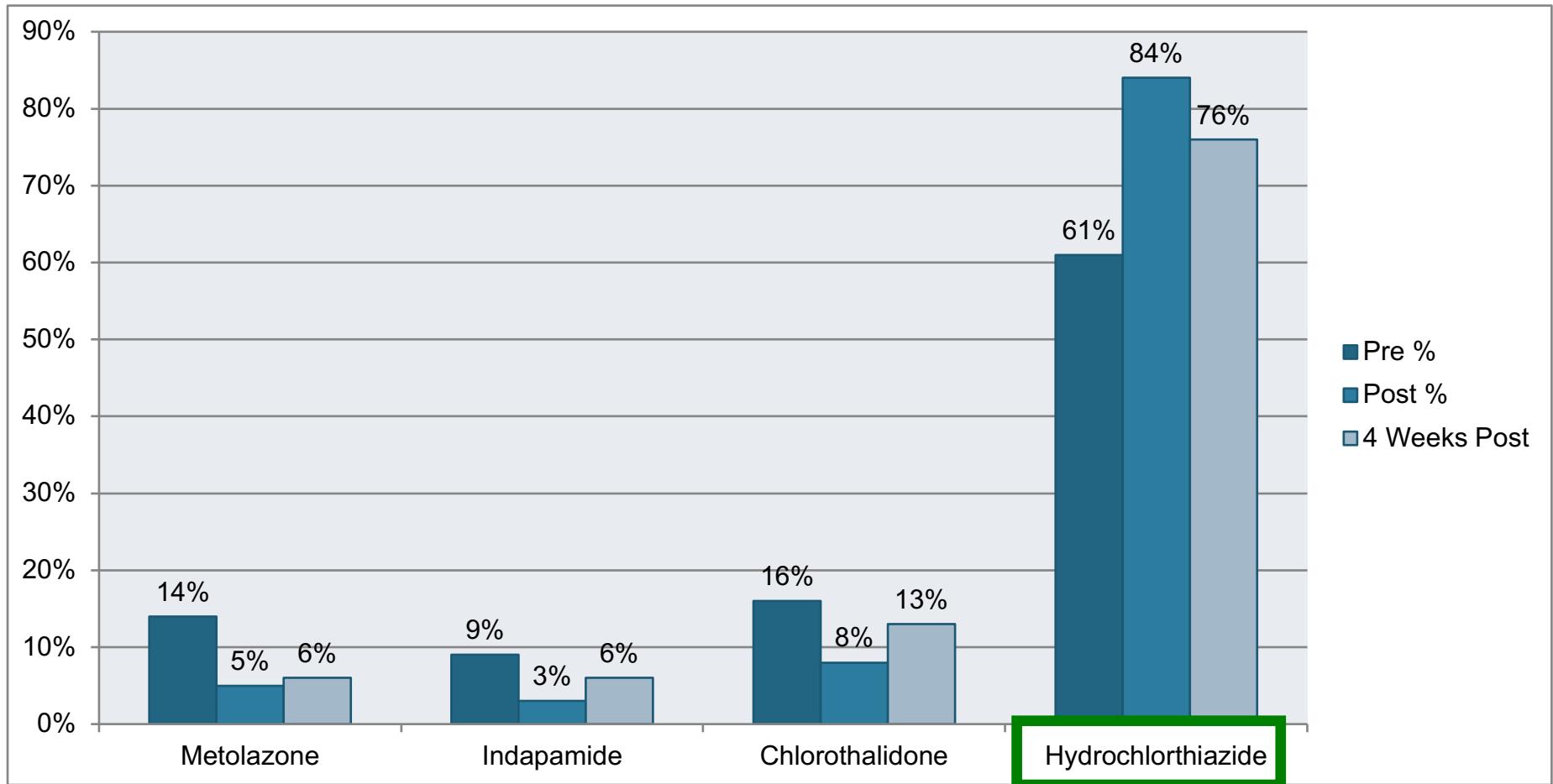
## Change in Practice Behavior Question

(presented pre-post lecture, and after 4 weeks —boxed answer is correct)

**Which of the following thiazide/thiazide-like diuretics has the shortest half-life?**

(Learning Objectives 4)

Pre-Post P Value:< 0.001 – Significant



Pre N = 197 Post N = 217 4 Weeks Post N = 158

Green highlight indicates significant difference between pre and post testing.

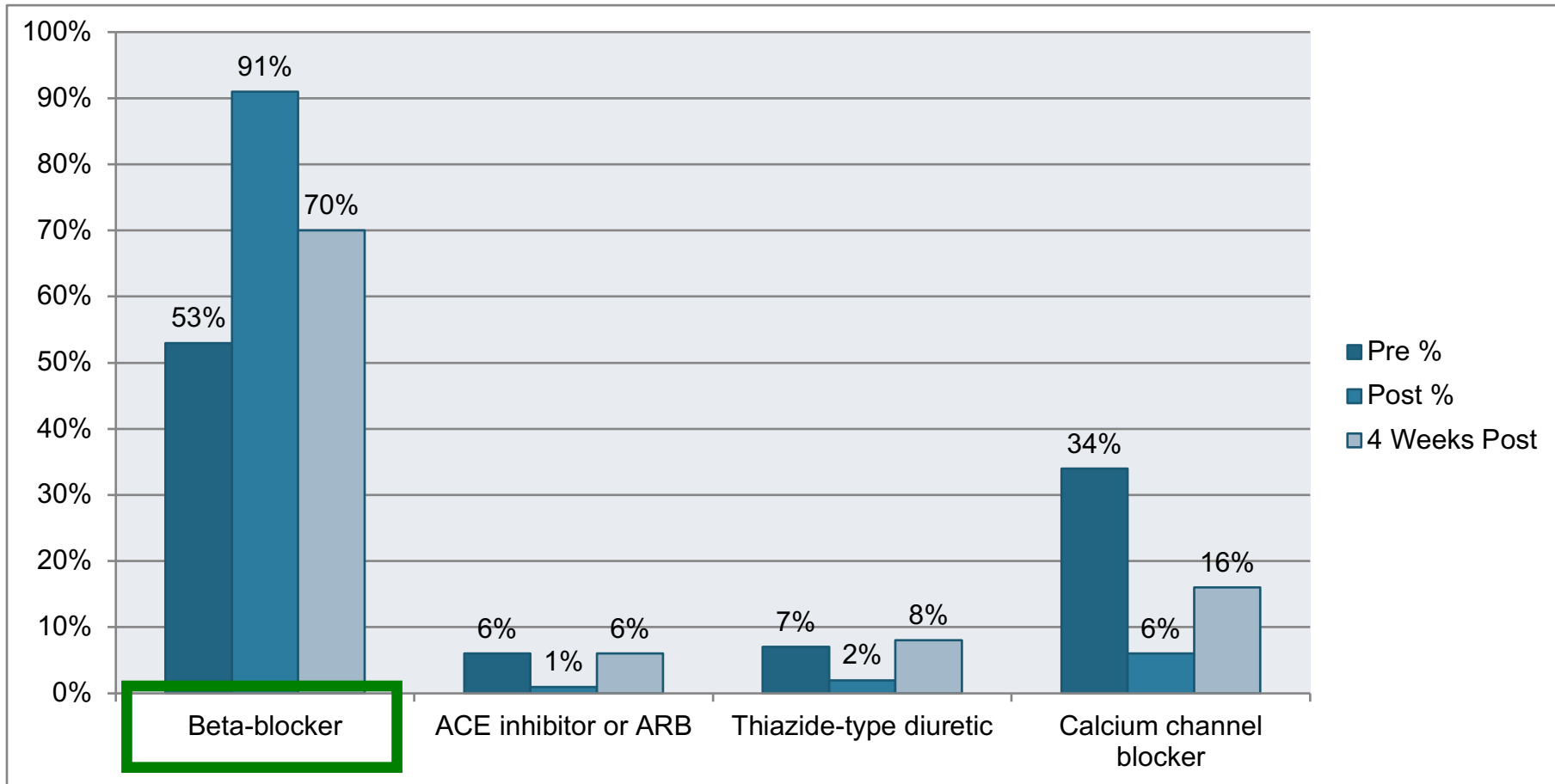
# Change in Practice Behavior Question

(presented pre-post lecture, and after 4 weeks —boxed answer is correct)

**According to JNC 8, all of the following antihypertensive drug classes are appropriate for initial treatment of an uncomplicated hypertensive patient, EXCEPT:**

(Learning Objectives 3, 4)

Pre-Post P Value: < 0.001 – Significant

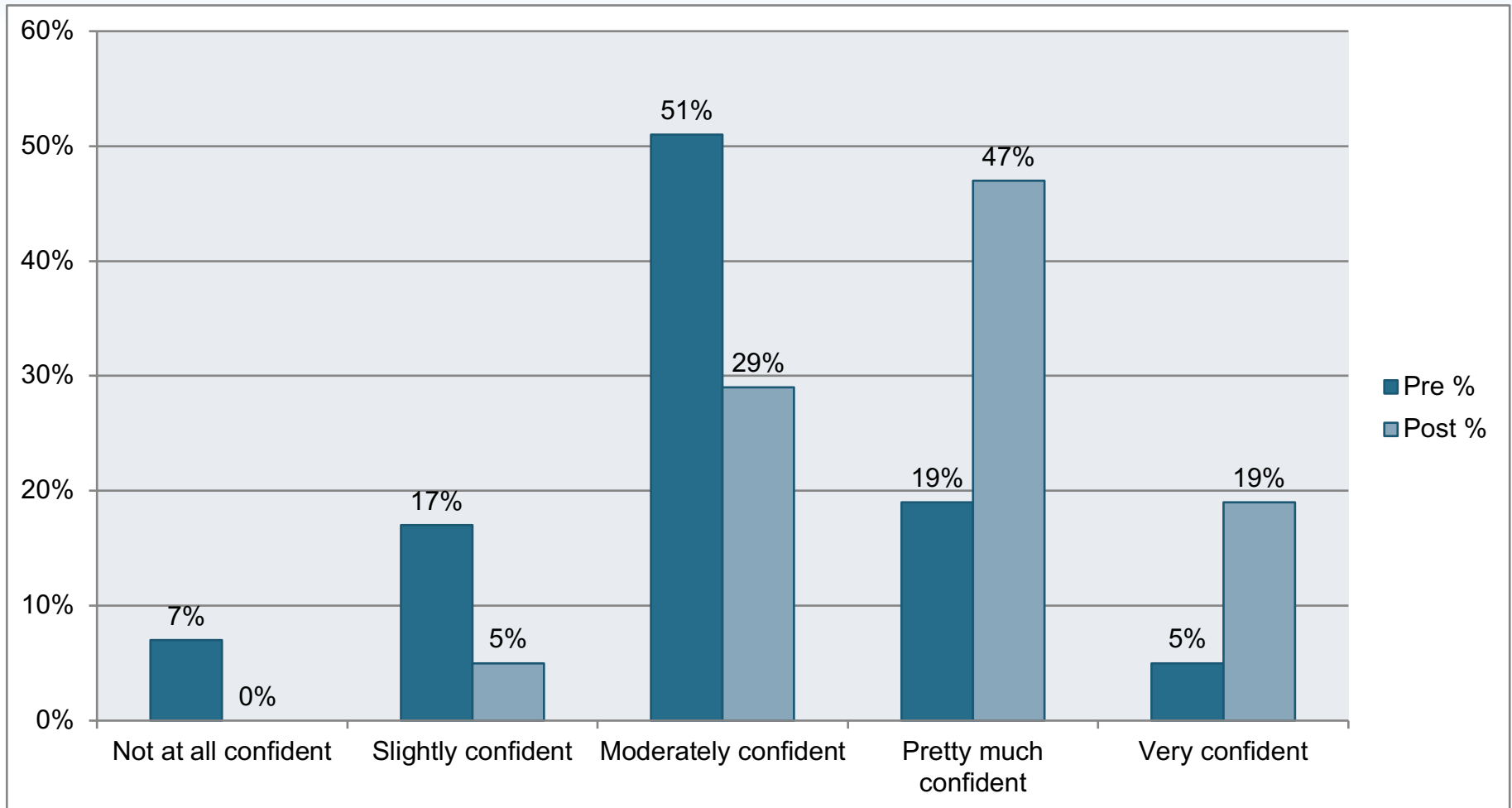




# Confidence Question

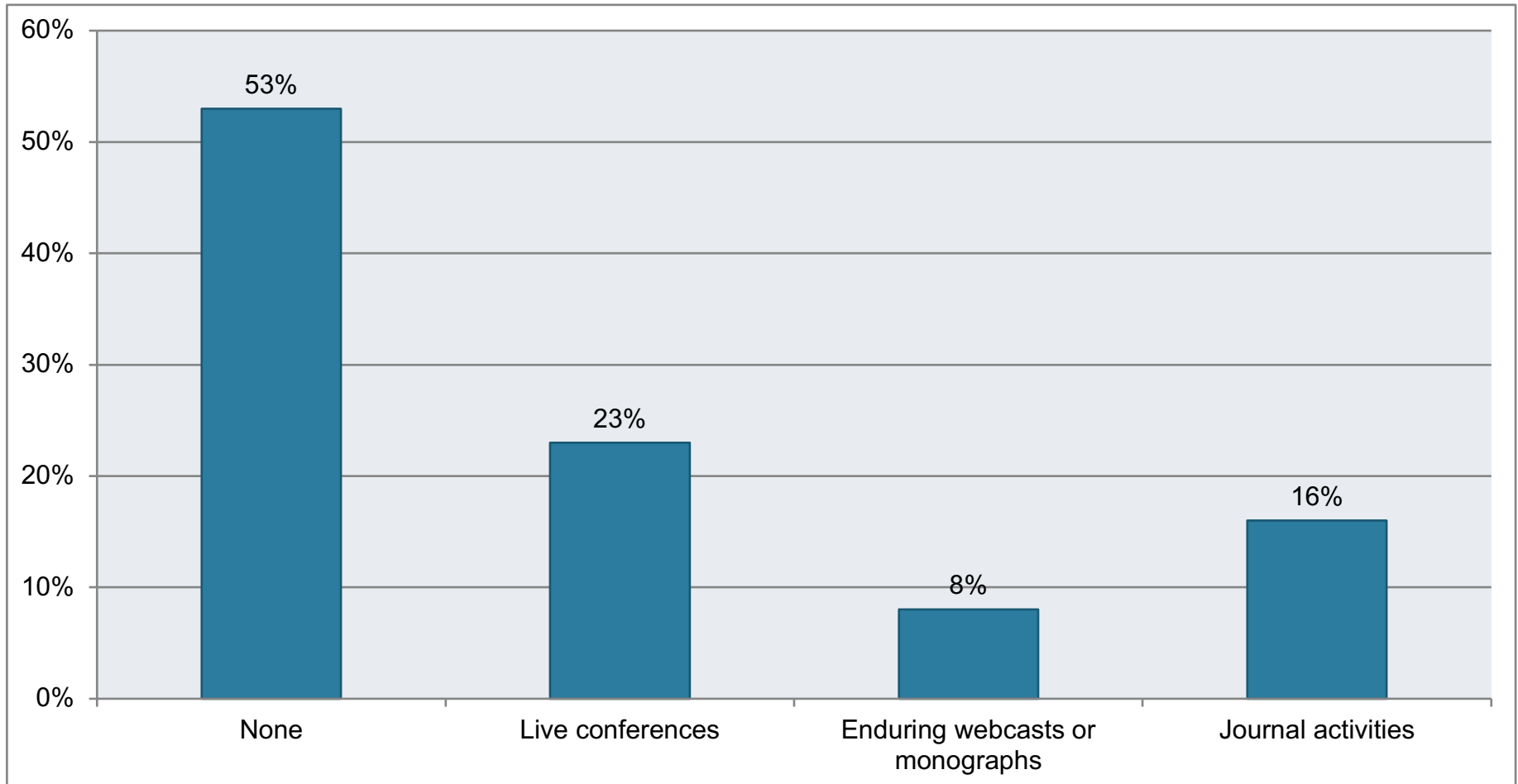
(Presented pre-post lecture)

Please rate your confidence in incorporating evolving clinical data into your management of patients with hypertension:



# Challenges in Hypertension: Incorporating Evolving Clinical Data into Practice

**Describe/list any other educational activities that you attended in the last month concerning the management of patients with Hypertension?**



# Challenges in Hypertension: Incorporating Evolving Clinical Data into Practice

## **What specific skills or practice behaviors have you implemented for patients with hypertension since this CME activity?**

(Sample comments received from attendees at 4 week follow up)

- “I am more confident with assessment and management of HTN in a primary care setting”
- “I am more aware of BP goals”
- “I have changed the way I dose HCTZ”
- “I make sure BP is being measured properly”
- “I am more confident in my decision making in goals for hypertension and discernment using in-office blood pressure measurements”
- “I have changed my first line treatment”
- “I have changed the technique in which I take blood pressure”
- “I am using more long acting diuretics”
- “I have modified my choice of initial medications for HTN control”
- “I am encouraging out of office BP measurements”
- “I have been avoiding Beta Blockers as first line therapy”
- “I have increased use of Chlorthalidone as adjunctive therapy”
- “I have educated my clinical staff on proper BP reading position”
- “I am educating patients regarding goal for mgmt. and selecting individual treatment according to other co-morbidities”
- “I am more aware of the importance of getting accurate readings outside clinic”

## Challenges in Hypertension: Incorporating Evolving Clinical Data into Practice

**What specific barriers have you encountered that may have prevented you from successfully implementing strategies for patients with hypertension since this CME activity?**

(Sample comments received from attendees at 4 week follow up)

- White coat HTN
- Lack of 24 hour ambulatory monitor at my practice
- Insurance coverage for BP monitors and medications
- Cost of recommended machines
- Patients unable to measure BP at home, and not being able to afford meds
- Time is always a constraint as I feel we have to rush patients through their exam and make recommendations based on non-typical readings
- Time constraints for multiple blood pressure checks
- Patient noncompliance
- Patients don't want to take "another medication"
- Cost and insurance coverage

# Challenges in Hypertension:

## Incorporating Evolving Clinical Data into Practice

### Data Interpretation: 412 clinicians at 1 live virtual meeting

Are more aware that with standardized blood pressure management protocols, Kaiser Permanente was able to demonstrate BP control to <140/90 mmHg in as much as 80% of patients

Are more aware that beta-blockers are inappropriate for initial treatment of an uncomplicated hypertensive patient according to JNC 8

#### Participant Educational Gains

Recognize there are no recommendations for systolic BP target of <110 mmHg and that office BP readings are least likely to correlate with clinical outcomes

Understand that hydrochlorothiazide has the shortest half-life of thiazide/thiazide-like diuretics including metolazone, chlorthalidone, and indapamide

## Challenges in Hypertension:

Incorporating Evolving Clinical Data into Practice

**Data Interpretation: 412 clinicians at 1 live virtual meeting**

The impact of carefully planned blood pressure management protocols on achieving optimal control

Appropriate initial therapy for management of uncomplicated hypertension

**Persistent Educational Gaps at 4 Weeks:**

Blood Pressure treatment targets

Pharmacologic properties of thiazide diuretics and their impact on treatment regimens



Challenges in Hypertension:  
Incorporating Evolving Clinical Data into Practice  
**New Specific Behaviors Reported at 4 weeks**

Greater confidence  
in assessing and  
managing  
Hypertension

Greater awareness of  
blood pressure goals

Encouraging more out of office  
blood pressure measurements

Revised techniques for  
measuring blood pressure  
in the office

Greater staff and patient  
education on blood pressure  
management

# Challenges in Hypertension: Incorporating Evolving Clinical Data into Practice

## **Reported Barriers to Care at 4 weeks**

White coat  
Hypertension

Insurance coverage  
and cost for blood  
pressure monitors

Time constraints

Patient non-compliance with  
lifestyle recommendations,  
medications and treatment  
plan

Time constraints



Challenges in Hypertension:  
Incorporating Evolving Clinical Data into Practice  
**Data Interpretation: 412 clinicians at 1 live virtual meeting**

94% said they would implement new strategies that they learned in their practice and 93% reported changing behavior after 4 weeks

Significant confidence gains in the management of patients with Hypertension

**KEY TAKE  
HOME  
POINTS**

Significant knowledge retention at 4 weeks indicating effectiveness of program

30% of attendees report seeing 25 or more patients with Hypertension weekly; 65% see > than 10, suggesting significant number of patients impacted

# Discussion and Implications

## Challenges in Hypertension: Incorporating Evolving Clinical Data into Practice

The need for continued education in the area of Hypertension, was demonstrated based on literature reviews and surveys completed prior to the conference series. Attendee knowledge was assessed at 3 points for this program: prior to the lecture, immediately following the lecture and again at 4 weeks after the conference using the case vignettes listed above.

### Data Interpretation:

Data collected from 412 clinicians after 1 meeting, indicated improvement in knowledge and intent to change behavior in *all five* of the case-based questions regarding approach to treating patients with hypertension, four of which achieved statistical significance.

Specifically, as a result of this lecture, participants:

1. Are more aware that with standardized blood pressure management protocols, Kaiser Permanente was able to demonstrate BP control to <140/90 mmHg in as much as 80% of patients;
2. Understand that office based blood pressure readings are least likely to correlate with clinical outcomes;
3. Recognize that there have been no recommendations for a systolic blood pressure target, in various at-risk populations, of <110 mmHg;
4. Understand that hydrochlorothiazide has the shortest half-life of thiazide/thiazide-like diuretics including metolazone, chlorthalidone, and indapamide;
5. Are more aware that beta-blockers are inappropriate for initial treatment of an uncomplicated hypertensive patient according to JNC 8.

Moderate to very confident levels in incorporating evolving clinical data into your management of patients with hypertension rose 26% from 75% to 95%. 94% of participants are likely to utilize information learned from this presentation in their practice. 30% of attendees report seeing 25 or more patients with Hypertension on a weekly basis and 65% are seeing more than 10, suggesting a significant number of patients will be impacted by this program.



# Discussion and Implications

## Challenges in Hypertension: Incorporating Evolving Clinical Data into Practice

### **4 Week Follow Up Data**

Data obtained from participants 4 weeks after the program demonstrated some decline or even slight improvement in learning from the post-test scores in all areas, but continued improvement from pre-test scores. These results suggest that all of the learning objectives for this activity have been effectively addressed with attendees.

Persistent gaps in knowledge were evident with additional education needed in the following areas:

1. The impact of carefully planned blood pressure management protocols on achieving optimal control
2. Appropriate initial therapy for management of uncomplicated hypertension
3. Pharmacologic properties of thiazide diuretics and their impact on treatment regimens
4. Blood pressure treatment targets

### **New Practice Behaviors**

Attendees indicated multiple new, specific, practice behaviors they implemented as a result of this program that included:

1. Greater confidence in assessing and managing Hypertension
2. Greater awareness of blood pressure goals
3. Encouraging more out of office blood pressure measurements
4. Revised techniques for measuring blood pressure in the office
5. Using more long acting diuretics
6. Greater staff and patient education on blood pressure management

1 month after this conference, 53% of attendees had no other exposure to a CME program, indicating that much of their behavior change was likely a result of this program.



# Discussion and Implications

## Challenges in Hypertension: Incorporating Evolving Clinical Data into Practice

The program content was reinforced to participants with a “Clinical Highlights” document containing key teaching points from the program. This was distributed 1 week after the meeting.

### **Barriers to Care**

Barriers to care reported by clinicians at 4 weeks included:

1. White coat Hypertension
2. Insurance coverage and cost for blood pressure monitors
3. Patient non-compliance with lifestyle recommendations, medications and treatment plan
4. Time constraints
5. Lack of 24 hour ambulatory monitor

### **What Can We Learn:**

After the program, there were knowledge gains in all areas addressing Hypertension and how to integrate current data into clinical practice. The notable changes in post test scores and confidence levels signify a clear gap in knowledge and an unmet need among primary care clinicians. It continues to be an important area for future educational programs.