

# Impact of Continuous Glucose Monitoring on Hospitalizations in People with Type 2 Diabetes: Real-World Analysis

**Satish K. Garg\***, Irl Hirsch, Enrico Repetto, Janet Snell-Bergeon, Brian Ulmer, Christopher Perkins, Richard M. Bergenstal



\*Professor of Medicine and Pediatrics,  
University of Colorado School of Medicine and Barbara Davis Center for  
Diabetes  
*Aurora, Colorado, USA*

**OP 32 Fine tuning CGMing (Poster#190)**

Thursday September **12, 2024 3:30PM - 5:00PM**  
**Berlin Hall.**

Garg et al. Diabetes Obesity and Metabolism 26: September 2024

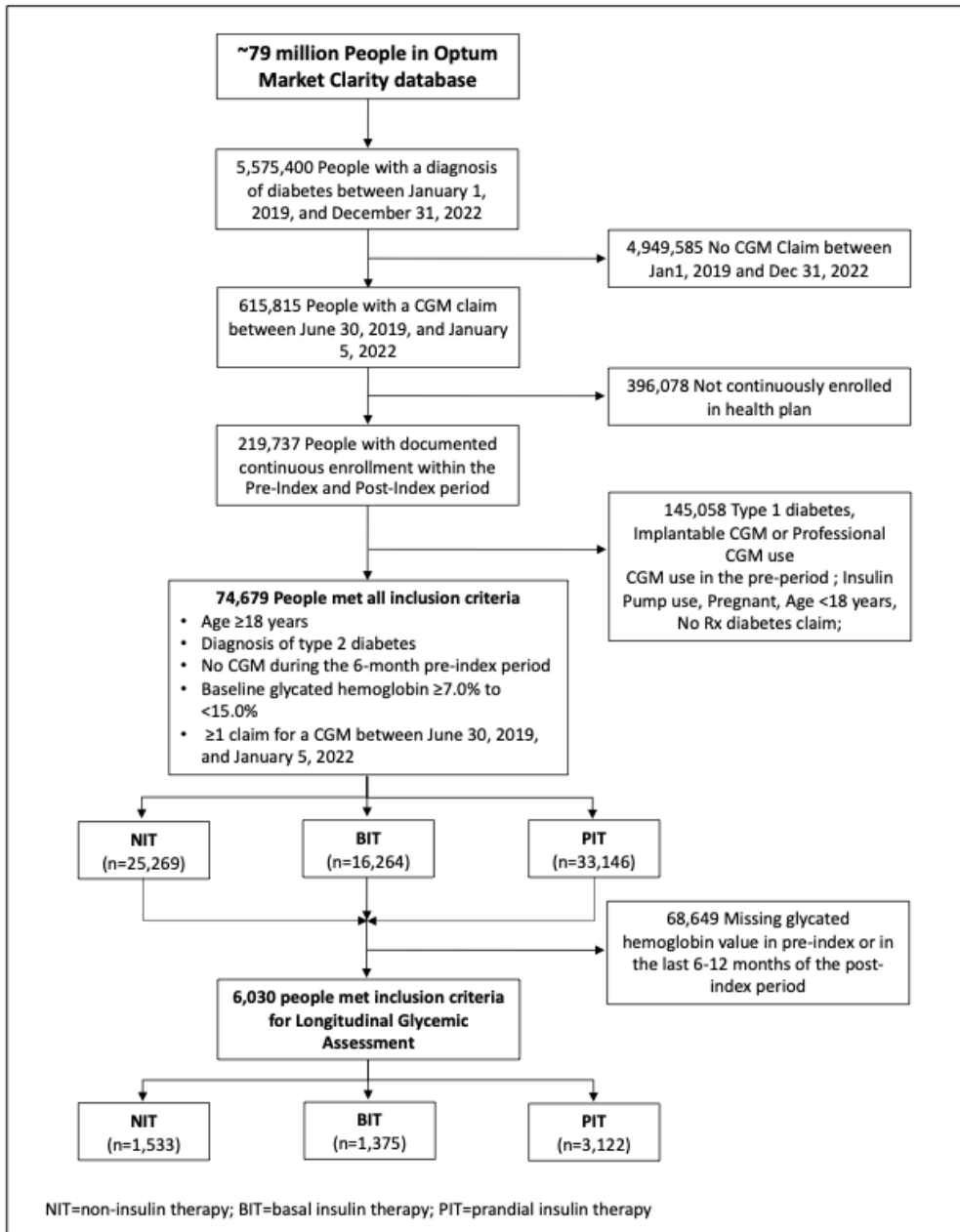
# Disclosure Information

- **Advisory Boards, Consulting fees:** Medtronic, Novo Nordisk, Roche Diagnostics, Know Labs, and Eli Lilly
- **Research Grants\*:** Eli Lilly, Novo Nordisk, Medtronic, Dario, Diasome, and Dexcom
- **Stock Holdings:** No stocks in any device or pharmaceutical company

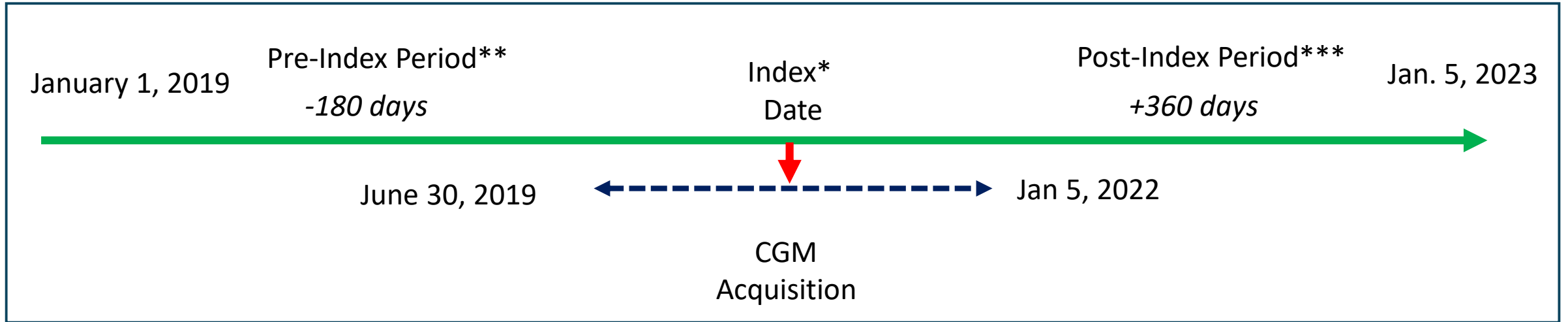
\*All research grants and honoraria through the University of Colorado Denver

# Consort Diagram

- Optum's de-identified Market Clarity Data >79 Million Patients EMR
- 74,679 CGM users Met Inclusion Criteria for Analysis



# Study Design



**\*Index Date = First Claim of CGM (Sensor, Receiver or Transmitter for and CGM**

**\*\*Pre-Index Period = 180 Days prior to the Index Date**

**\*\*\*Post Index Period = 360 Days post Index Date**

# Change in All-Cause Hospitalizations (ACH), Acute Diabetes-Related Hospitalizations (ADH), and Acute Diabetes-Related Emergency Room Visits (ADER)

***74,679 CGM users with T2D met all inclusion criteria for analysis:***

- Age  $\geq 18$  years
- Diagnosis of Type 2 diabetes
- No CGM claims during 6mos pre-index period
- Baseline HbA1c between  $\geq 7.0\%$  and  $< 15.0\%$
- $\geq 1$  claim for CGM between 6/30/19 and 1/5/22

# Change in All-Cause Hospitalizations (ACH), Acute Diabetes-Related Hospitalizations (ADH), and Acute Diabetes-Related Emergency Room Visits (ADER)

## ***Cohort Analysis Group by Treatment:***

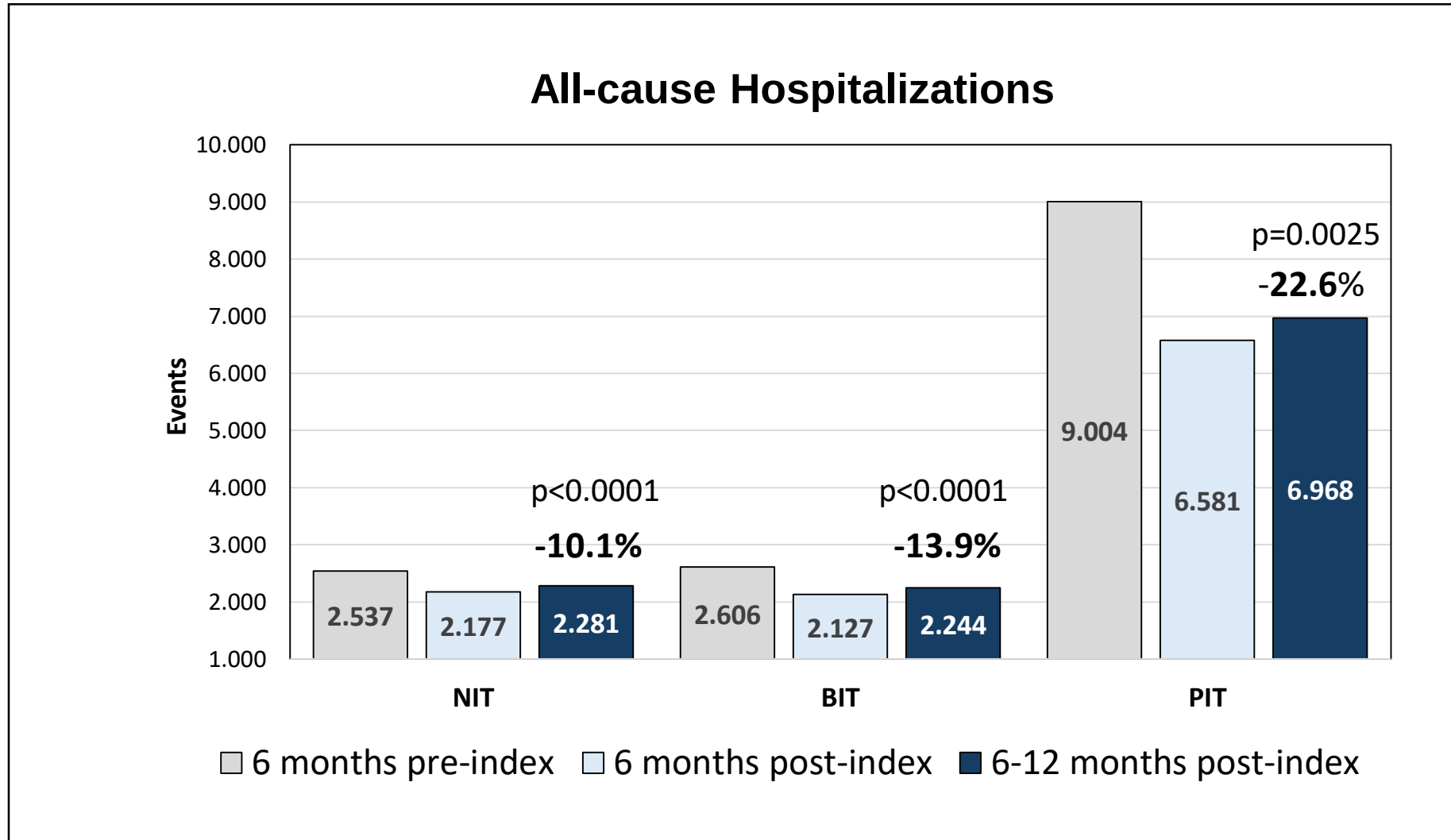
- ❖ NIT=non-insulin therapy: 25,269 people with T2D
- ❖ BIT=basal insulin therapy: 16,264 people with T2D
- ❖ PIT=prandial insulin therapy: 33,146 people with T2D

# Baseline Characteristics

| Characteristic               | NIT<br>(n=25,269) | BIT<br>(n=16,264) | PIT<br>(n=33,146) |
|------------------------------|-------------------|-------------------|-------------------|
| Index Age -- yr (SD)         | 56.9 (11.91)      | 57.7 (11.92)      | 58.3 (12.62)      |
| Female sex -- n, (%)         | 12,351 (48.9)     | 7,931 (48.8)      | 16,990 (51.3)     |
| Race -- n, (%)               |                   |                   |                   |
| Asian                        | 908 (3.6)         | 351 (2.2)         | 643 (1.9)         |
| Black                        | 3,542 (14.0)      | 2,487 (15.3)      | 5,066 (15.3)      |
| White                        | 14,615 (57.8)     | 9,716 (59.7)      | 19,961 (60.2)     |
| Unknown                      | 6,204 (24.6)      | 3,710 (22.8)      | 7,476 (22.6)      |
| Ethnic group -- n, (%)       |                   |                   |                   |
| Hispanic                     | 1,667 (6.6)       | 1,074 (6.6)       | 2,211 (6.7)       |
| Non-Hispanic                 | 16,072 (63.6)     | 10,692 (65.7)     | 22,208 (67.0)     |
| Unknown                      | 7,530 (29.8)      | 4,498 (27.7)      | 8,727 (26.3)      |
| Geographic Regions -- n, (%) |                   |                   |                   |
| Midwest                      | 8,747 (34.6)      | 6,018 (37.0)      | 13,458 (40.6)     |
| Northeast                    | 6,594 (26.1)      | 3,561 (21.9)      | 7,329 (22.1)      |
| South                        | 6,472 (25.6)      | 4,367 (26.9)      | 7,861 (23.7)      |
| West                         | 2,235 (8.8)       | 1,583 (9.7)       | 2,914 (8.8)       |
| Other/Unknown                | 1,221 (4.8)       | 735 (4.5)         | 1,584 (4.8)       |

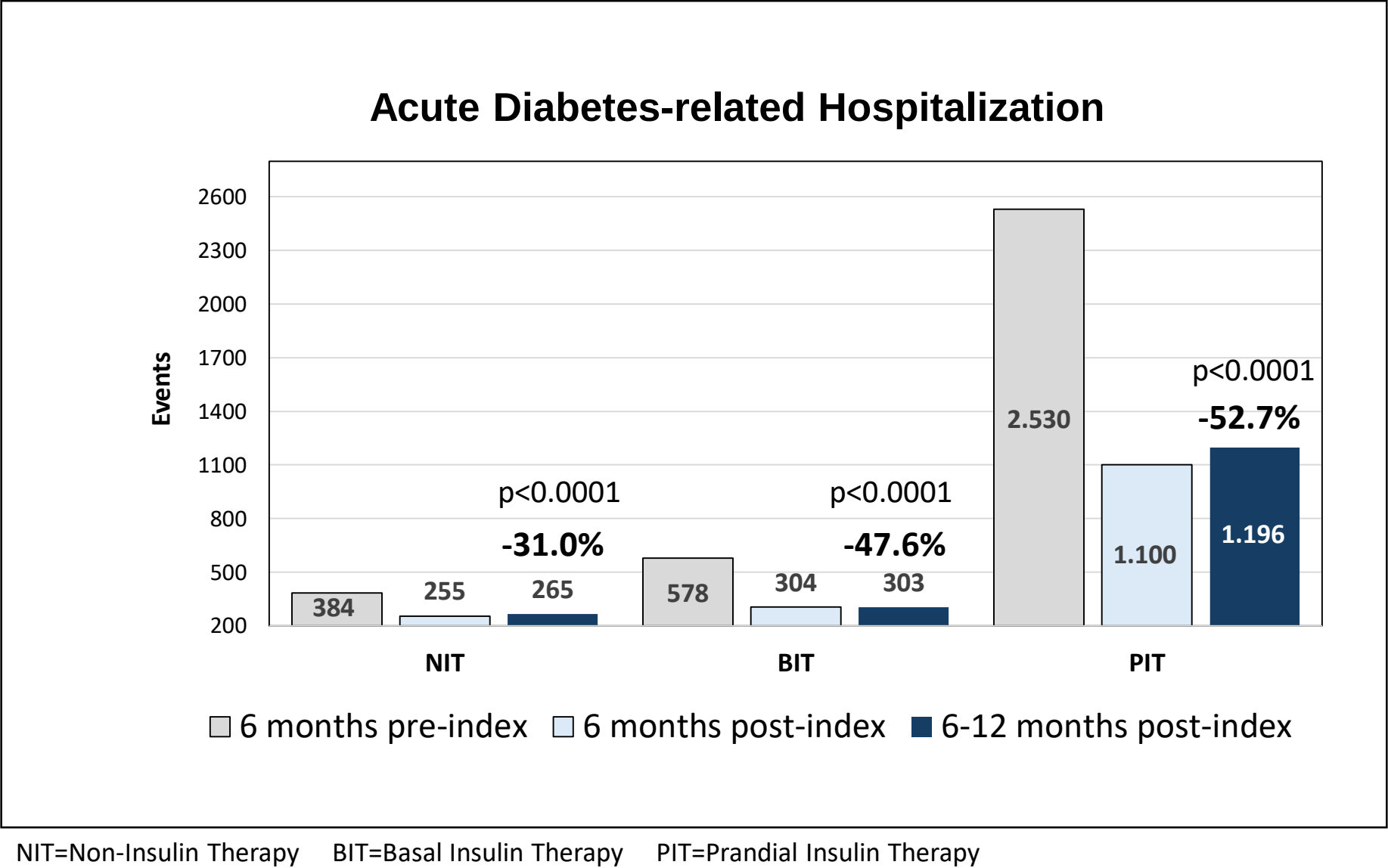
**NIT = Non-Insulin Treated, BIT = Basal Insulin Treated, PIT = Prandial Insulin Treated**

# All-cause Hospitalizations - Events and % Change

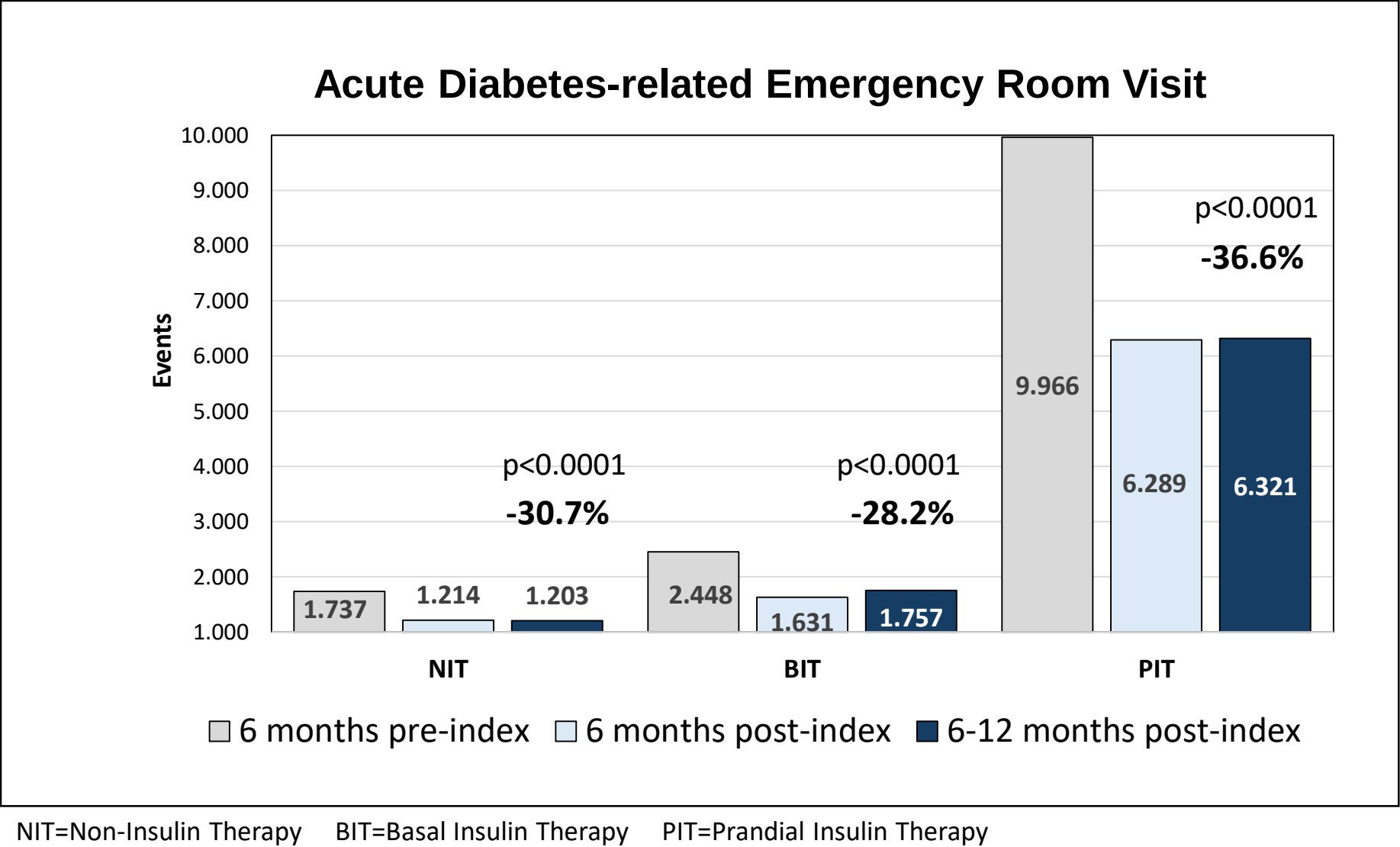


NIT=Non-Insulin Therapy   BIT=Basal Insulin Therapy   PIT=Prandial Insulin Therapy

# Acute Diabetes-related Hospitalization - Events and % Change



# Acute Diabetes-Related Emergency Room Visits - Events and % Change



## Conclusions

***Use of CGM is associated with significant reductions in ACH, ADH, and ADER in people with T2D regardless of their insulin regimen – NIT, BIT, or PIT.***