

# Changes in HbA1c After Initiating Real-time Continuous Glucose Monitoring (rtCGM)

## for Primary Care Patients with Type 2 Diabetes

Stephen Shields, MPH<sup>1</sup>, Gregory Norman, PhD<sup>2</sup>, Elizabeth Ciemins, PhD, MPH, MA<sup>1</sup>  
<sup>1</sup>AMGA (American Medical Group Association), Alexandria, VA <sup>2</sup>Dexcom Inc., San Diego, CA, USA

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### BACKGROUND

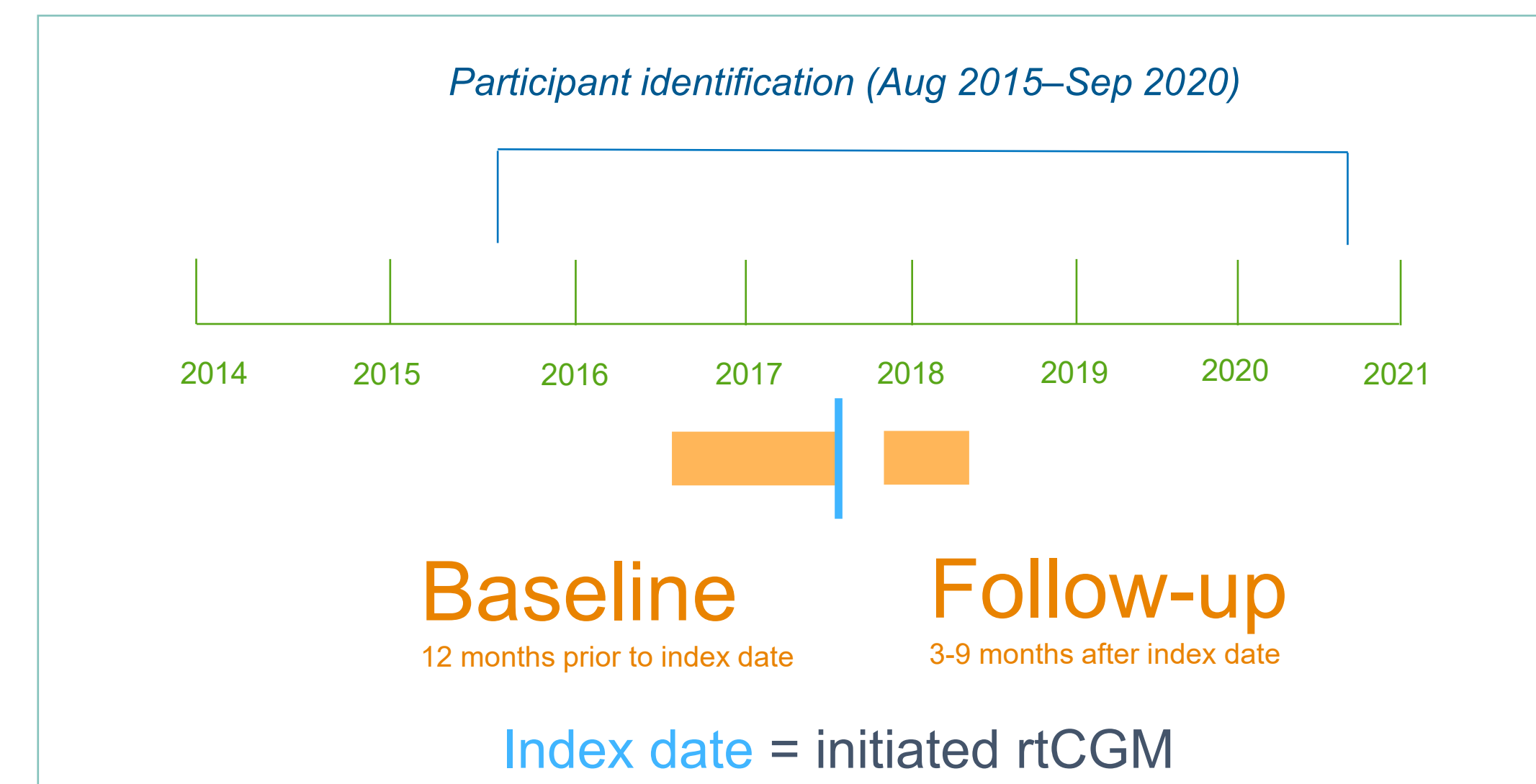
- Many patients with type 2 diabetes (T2D) have suboptimal control and are not meeting their glycemic targets.
- Use of continuous glucose monitoring (CGM) devices has increased substantially for patients with T2D.
- However, the effects of real-time CGM (rtCGM) on glycemia in primary care patients with T2D, particularly those not on intensive insulin therapy, in real world settings has not been well studied.
- This retrospective observational study examined data from 13 AMGA member health systems and multispecialty medical groups.

### METHODS

- A retrospective analysis was performed using EHR and outbound administrative claims data, which were extracted, mapped, and normalized by Optum®
- Inclusion criteria:
  - Patients with a diagnosis of T2D
  - Age 18–85 years
  - ≥ 1 outpatient visit with a primary care provider (PCP) in the 18 months prior to rtCGM use
  - Initiated rtCGM between August 1, 2015, and September 30, 2020 (index date)
  - Hemoglobin A1c (A1c) lab values pre-index and 3–9 months post-index
- Exclusion criteria:
  - Diagnosis of type 1 or gestational diabetes
  - Evidence of hospice or palliative care
  - Death within 9 months of index date
  - Prior CGM use (any type)
- The cohort was stratified into two groups based on baseline A1c (A1c >7.5 and A1c ≤7.5).
- The primary outcome was change in A1c from baseline to 3–9 months following rtCGM initiation.

### RESULTS

#### Study Period



#### Demographics

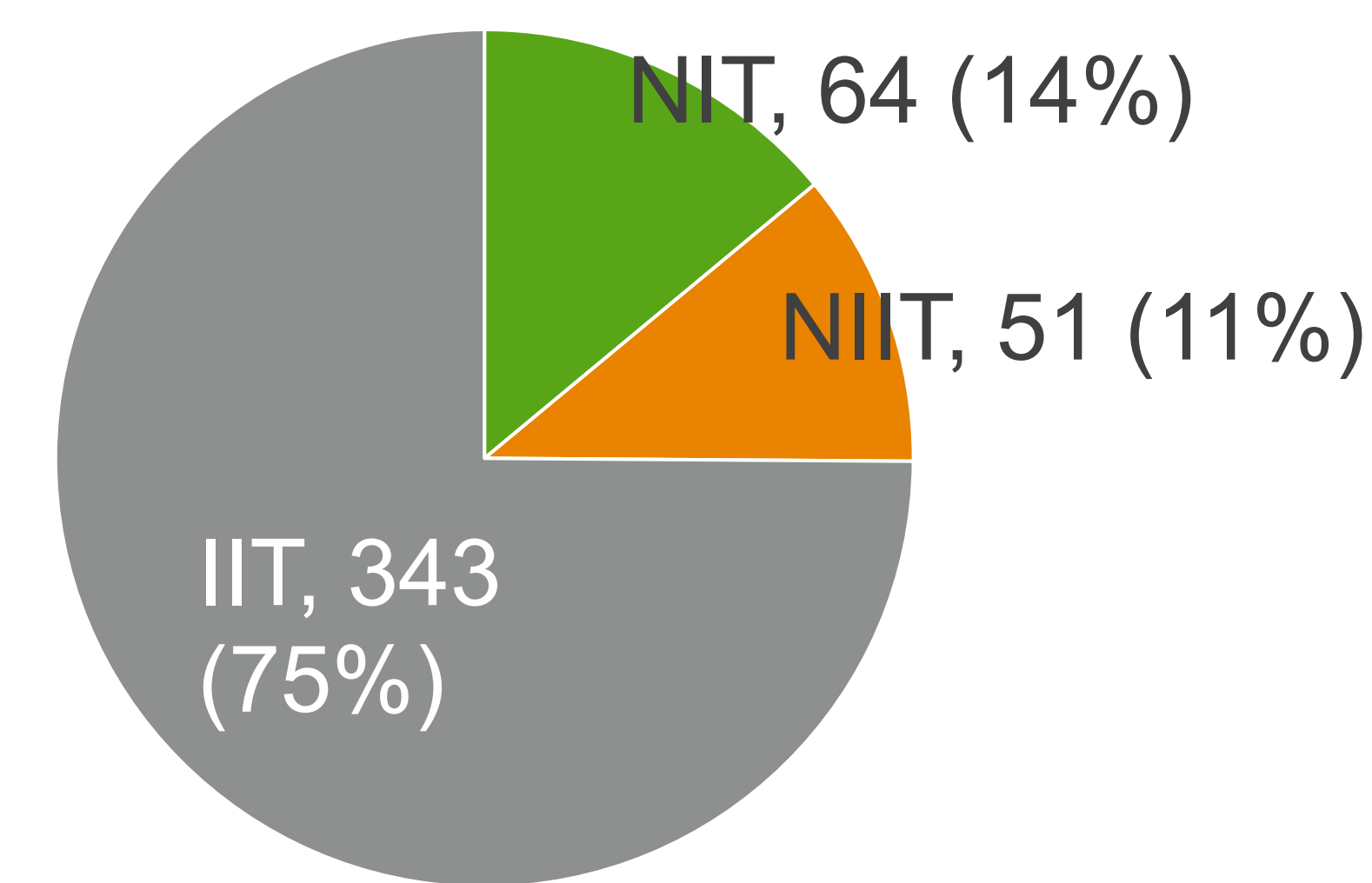
	n = 458
Age, median [IQR]	61 [54, 70]
Sex, n (%)	
Female	231 (50%)
Race, n (%)	
Asian	5 (1%)
Black	34 (7%)
White	387 (85%)
Other or Multiple	7 (2%)
Unknown	25 (5%)
Ethnicity, n (%)	
Hispanic	28 (6%)
Insurance, n (%)	
Commercial	229 (50%)
Medicare	195 (43%)
Medicaid	10 (2%)
PCP visits prior year, mean (SD)	3.7 (2.9)

#### Insulin Therapy Groups

NIT = anti-diabetes drugs, no insulin

NIIT = basal but not bolus insulin

IIT = bolus insulin, with or without basal insulin



#### Change in A1c Stratified by Baseline A1c

Baseline A1c >7.5		Mean (SD)			
	n	BL A1c	FUP A1c	A1c change	p-value
NIT	31	9.27 (1.7)	8.14 (1.7)	-1.13 (2.3)	0.010
NIIT	36	10.05 (2.0)	8.45 (1.6)	-1.59 (2.3)	<0.001
IIT	239	9.24 (1.4)	8.48 (1.5)	-0.76 (1.6)	<0.001
Baseline A1c ≤7.5		Mean (SD)			
	n	BL A1c	FUP A1c	A1c change	p-value
NIT	33	6.52 (0.7)	6.52 (1.0)	0.00 (0.8)	0.983
NIIT	15	6.70 (0.6)	6.79 (0.8)	0.09 (0.7)	0.630
IIT	104	6.84 (0.6)	7.00 (1.0)	0.16 (1.0)	0.108

BL = baseline, FUP = follow-up

### STUDY LIMITATIONS

- Indication of use for CGM utilization is not known.
- Observational study design.
- Prescription data do not capture fills or patient use of medication.

### CONCLUSIONS

- These findings suggest that rtCGM use can improve glycemic control in patients with poorly-controlled T2DM regardless of therapy regimen.
- This real-world evidence supports further studies of the benefits of rtCGM in the broader T2DM population.