



Impact of Hemoglobin A1c Screening and Brief Intervention in a Medicare Population

Mary Jo Quinn DNP, ARNP-C, ACHPN

Susan Schaffer PhD, ARNP, FNP-BC

University of Florida College of Nursing, Gainesville, Florida

The Diabetes Crisis



- 1 in 3 Adults has prediabetes with 88% unaware
- 70% will develop Type 2 diabetes at a rate of 4-11% annually
- 1 in 3 Medicare dollars are spent on diabetes related care
- Prediabetes intensive lifestyle modification programs associated with 58% risk reduction for development of diabetes
- Recommended 3 year screening interval

Prediabetes Opportunity

Purpose: Evaluate the impact of annual hemoglobin A1c (HbA1c) screening

Setting: HouseCalls Medicare Advantage preventative home visit program

Design: Retrospective observational design comparing:

- (a) Pre- and post-intervention HbA1c in the treatment group by baseline A1c group
- (b) BMI of those who had a HouseCalls visit with HbA1c screening to those who did not have HbA1c screening

Methods: Approved by the University of Florida IRB and Optum Privacy

- Demographic variables were analyzed using Chi-Square (categorical) or independent t-tests (continuous).
- Difference in post-test BMI between the treatment and comparison groups after controlling for baseline BMI was analyzed using ANCOVA.
- A1c change from 2016 to 2017 among baseline A1c groups within the treatment group was analyzed using paired t-test.

Convenience Sample

Health Plan's Participants in HouseCalls Program

n=34,348

10,979 excluded due to diabetes

105 excluded due to missing state or gender

Treatment Group
HouseCalls visit with 2016 HbA1c screening
n=4,422

Comparison Group
HouseCalls visit without 2016 HbA1c screening
n=18,842

HbA1c < 5.7
n=2,454

HbA1c 5.7 - 6.4
n=1,776

HbA1c > 6.4
n=192

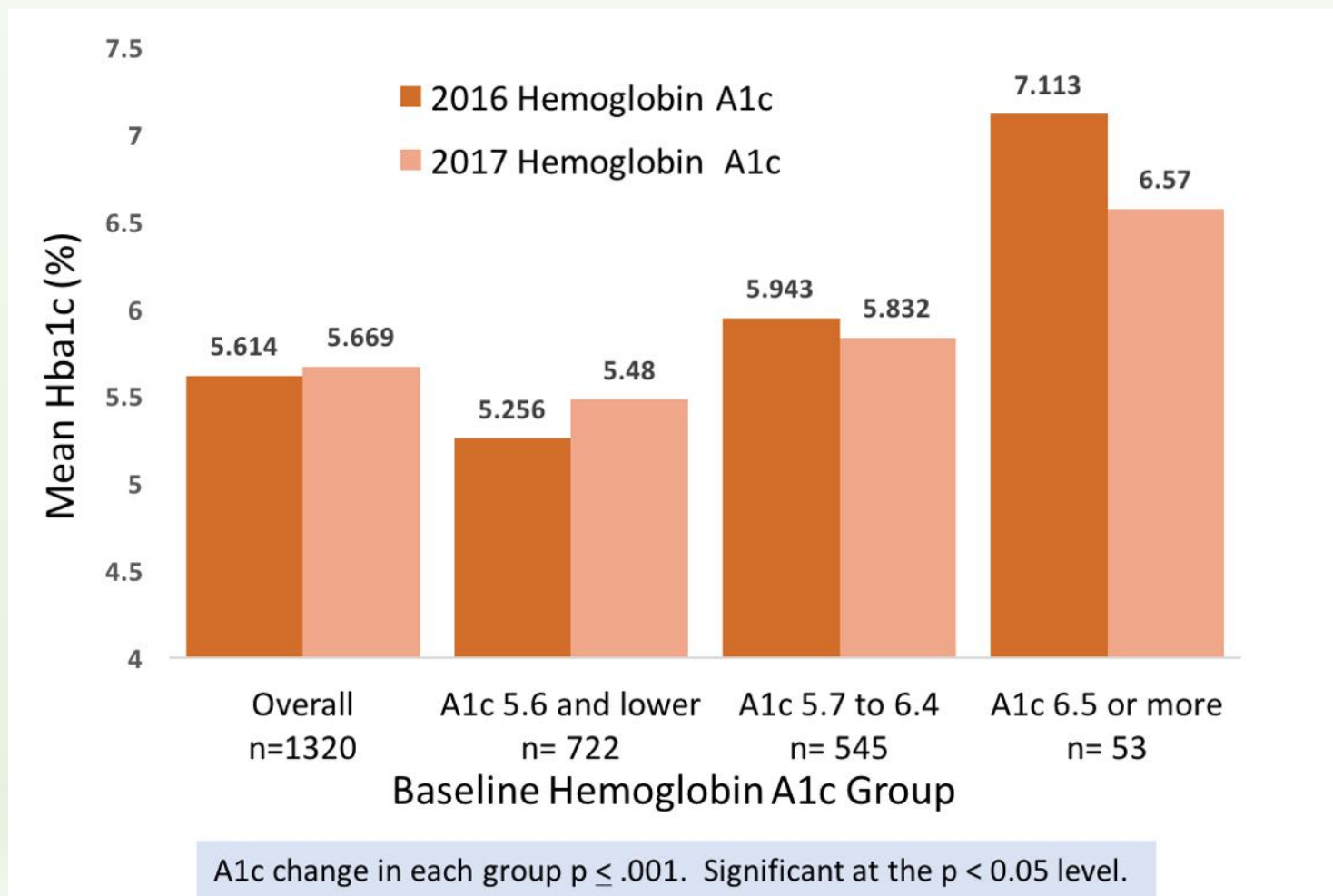


Sample Characteristics

Variable	Treatment Group Frequency (%) or Mean \pm SD	Comparison Group Frequency (%) or Mean \pm SD	P value
State of residence			.054
Florida	2,224 (50.3%)	9,779 (51.9%)	
Texas	2,198 (49.7%)	9,063 (48.1%)	
Gender			.240
Female	2,563 (58.0%)	11,103 (58.9%)	
Male	1,859 (42.0%)	7,739 (41.1%)	
Age Mean	72.76 \pm 9.05	73.06 \pm 10.24	.054
2016 BMI mean	28.25 \pm 6.25	28.14 \pm 6.25	.334
2017 BMI mean	27.98 \pm 6.02	28.02 \pm 6.30	
2016 HbA1c mean	5.61% \pm 0.54		
2017 HbA1c mean	5.67% \pm 0.62	5.63% \pm 0.59	

Results

Hemoglobin A1c Means in the Treatment Group by Year



Results

After controlling for baseline log BMI, the difference between mean log 2017 BMI in the treatment group and comparison group was similar

Conclusions

- May be a benefit to annual HbA1c screening
- Only 3.8% of those with prediabetes in 2016 were diagnosed with diabetes at the 2017 HouseCalls visit
- 1 in 4 of those with A1c levels above 6.4 in both 2016 and 2017 had not yet been formally diagnosed with diabetes

Discussion

Limitations

- Potential that diabetics were not excluded
- Ethnicity and income data lacking
- Sampling timeframe
- Sample may not be representative of population



Future Directions

- Compare WellMed's diabetes progression rates to general Medicare Advantage
- Pilot prediabetes program that promote lifestyle changes
- Track PCP follow up of those identified with HbA1c > 6.4

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