

Implementing a Prediabetes Screening Algorithm in the Primary Care Setting

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INTRODUCTION

Prediabetes and type 2 diabetes are global health concerns

- 541 million adults worldwide have prediabetes & projections increase to 730 million by 2045¹
- 38% of the U.S. population has prediabetes, 80% are unaware of it²
- Up to 50% of patients with prediabetes will progress to type 2 diabetes in 5 years if left unmanaged^{1,3}
- Diabetes is the 7th leading cause of death in the U.S.²
- Costs exceed \$327 billion dollars annually → most expensive chronic condition in the nation⁴
- Lifestyle change programs & medication have proven effectiveness^{5,6}



PROBLEM STATEMENT

There are inconsistent screening and referral practices among primary care providers. Healthcare providers must improve their screening processes to identify prediabetes so that referral to lifestyle intervention to prevent or delay the onset of type 2 diabetes can take place.

OBJECTIVES

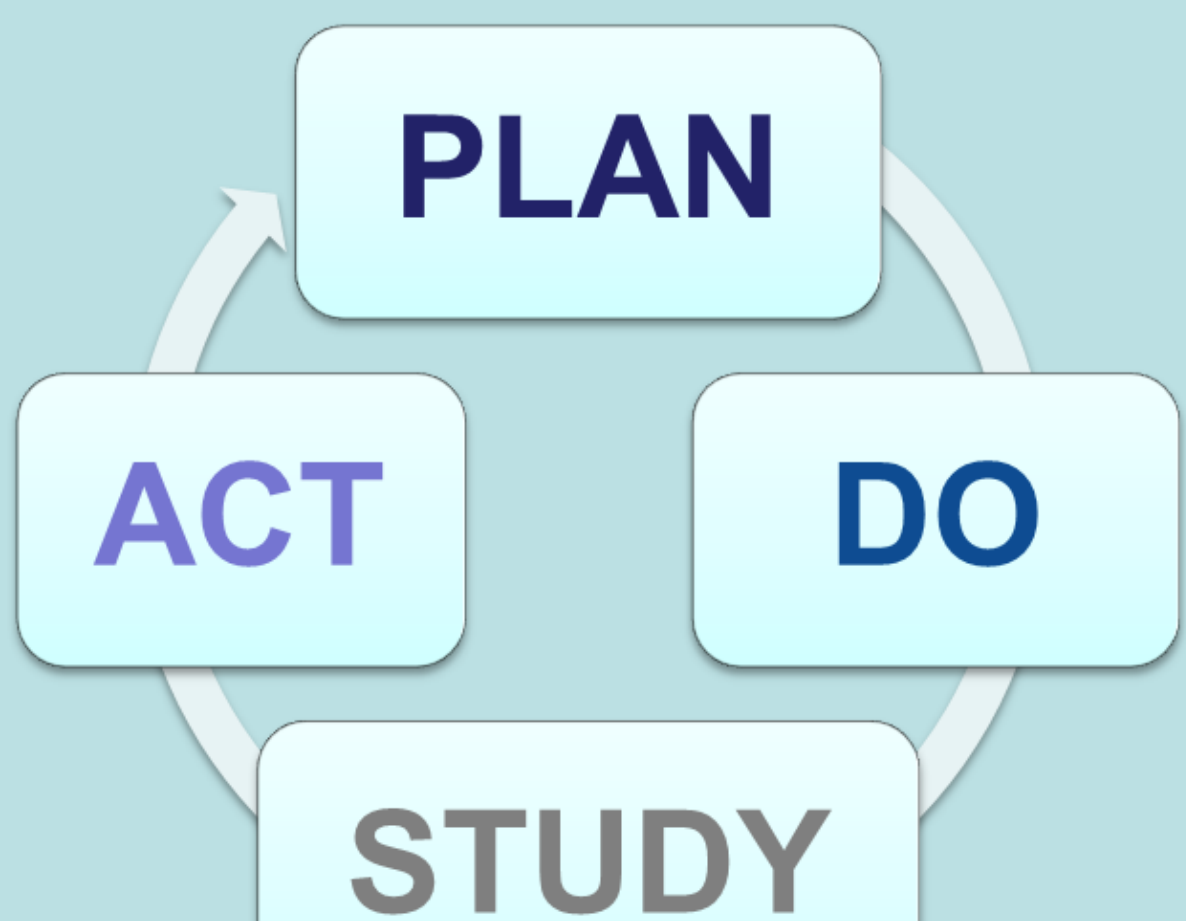
Project Goal:
Improve prediabetes identification and referrals

Project Aims:
1. Develop a prediabetes screening algorithm and provider education plan

2. Implement and evaluate the screening algorithm to compare the number of patients identified as having prediabetes, and the number of patients referred for lifestyle intervention to two prior recent years

3. Sustain and scale the prediabetes screening algorithm

Project Model:



METHODS

Aim 1: Develop Screening Algorithm and Tool

Prediabetes Risk Test

NATIONAL DIABETES PREVENTION PROGRAM

1. How old are you? Write your score in the boxes below

Age Group	Points
Younger than 40 years	0 points
40-49 years	1 point
50-59 years	2 points
60 years or older	3 points

2. Are you a man or a woman?

Gender	Points
Man	1 point
Woman	0 points

3. If you are a woman, have you ever been diagnosed with gestational diabetes?

Response	Points
Yes	1 point
No	0 points

4. Do you have a mother, father, sister, or brother with diabetes?

Response	Points
Yes	1 point
No	0 points

5. Have you ever been diagnosed with high blood pressure?

Response	Points
Yes	1 point
No	0 points

6. Are you physically active?

Response	Points
Yes	0 points
No	1 point

7. What is your weight category? (See chart at right)

Weight Category	Points
1 Point	1 point
2 Points	2 points
3 Points	3 points

HbA1c result

- HbA1c < 6.7% normal range
- HbA1c 6.7-6.9% consistent with prediabetes
- HbA1c 6.9% or higher consistent with type 2 diabetes

Referral: Lifestyle medicine, Weight management, Nutrition

Document condition on problem list and educate patient about risk of progression to type 2 diabetes

Schedule 6 month follow up visit to monitor progress

Total score: []

<https://www.cdc.gov/prediabetes/takethestest/>

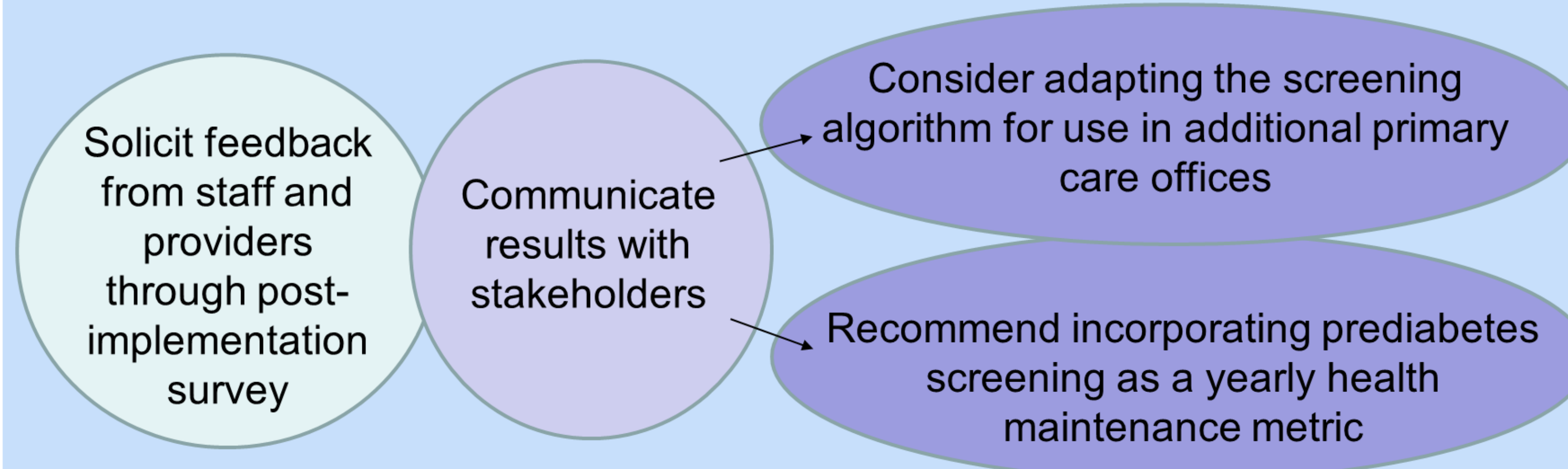
Algorithm included validated screening tool & point-of-care hemoglobinA1c testing for those identified as high risk, with guidance for intervention based on results

Aim 2: Implement and Evaluate

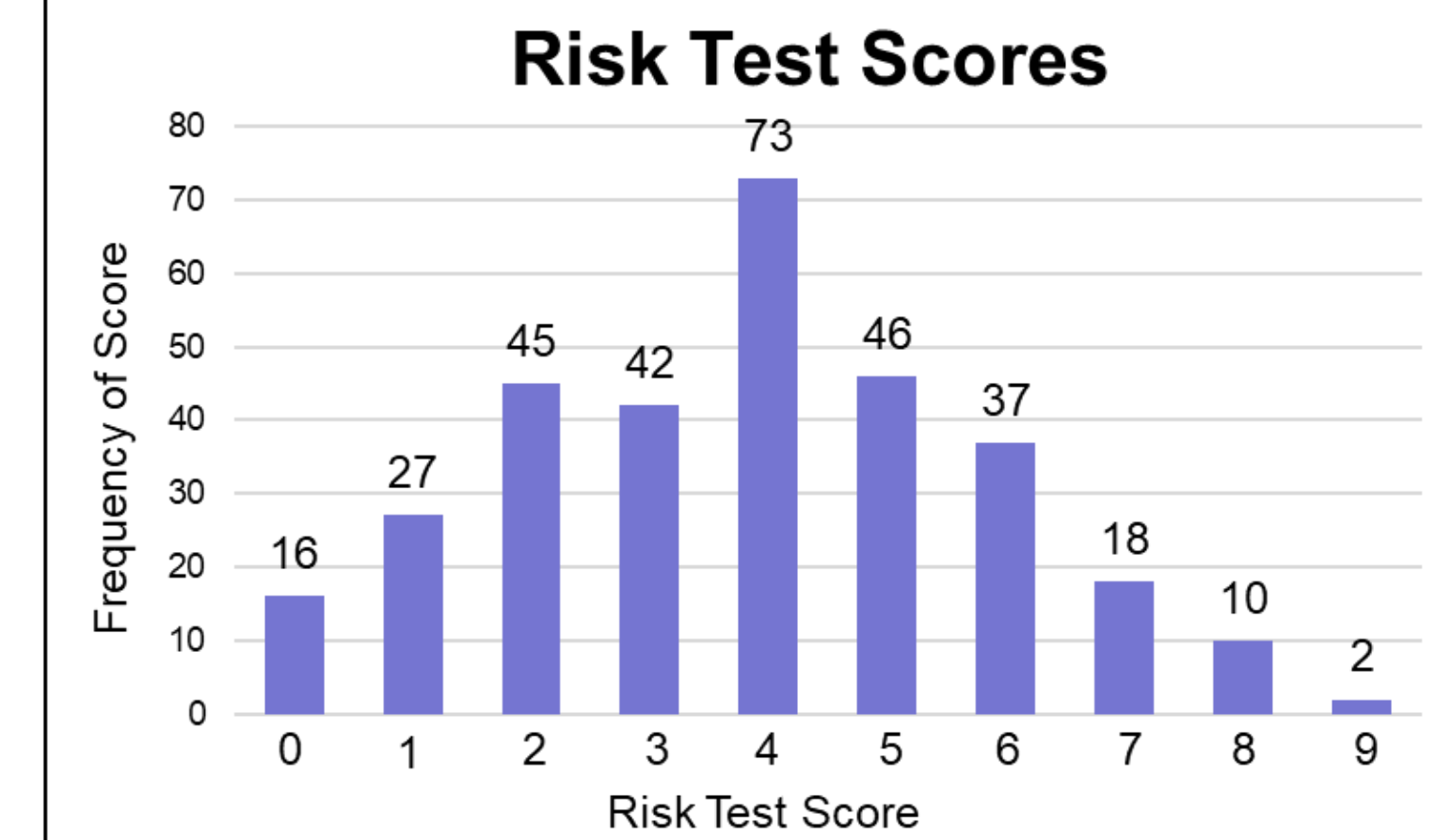
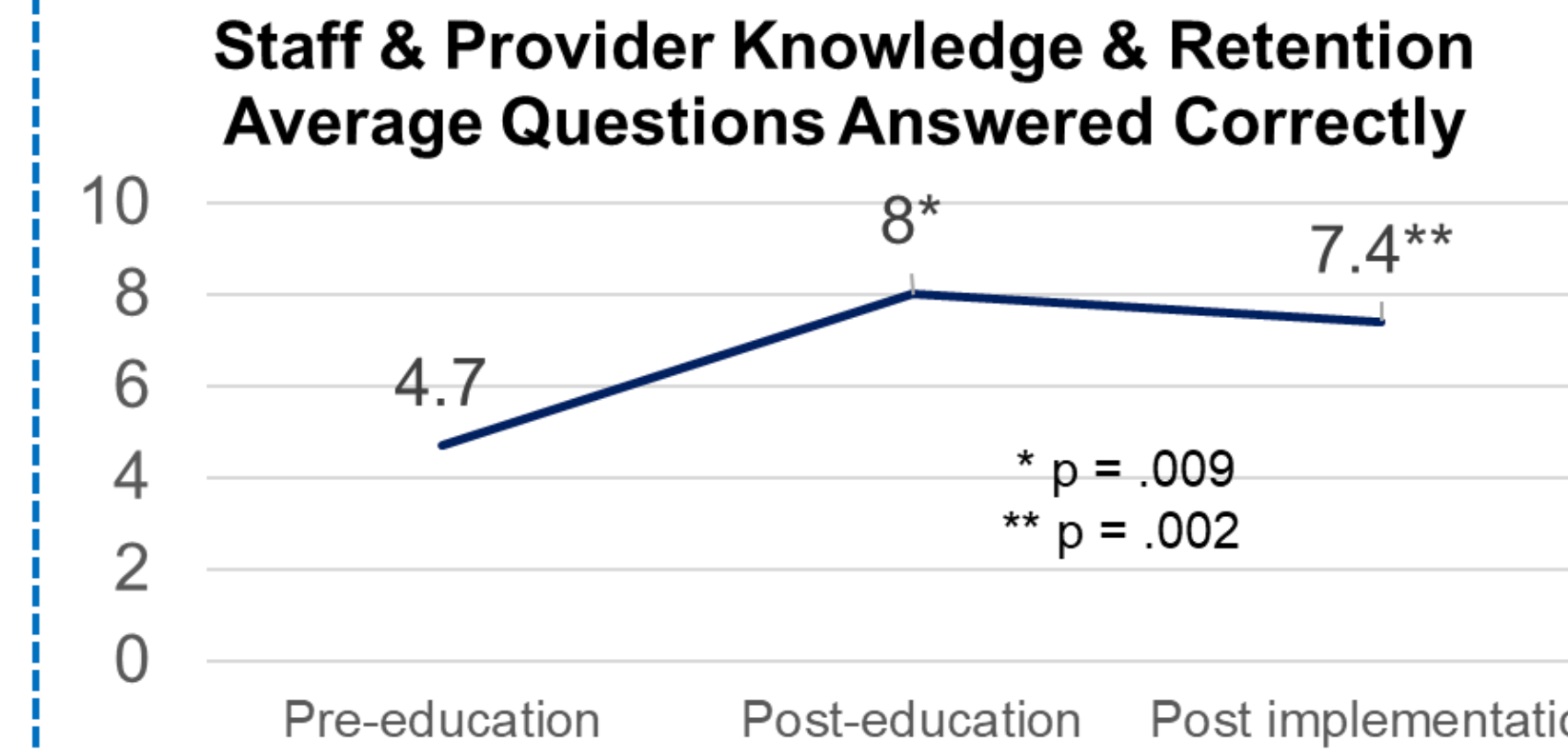
Project implemented in a Primary Care Practice, that is part of a large multi-specialty care organization in New England

- Education session with a pre- and post-test, re-administered following implementation to assess retention of knowledge
- Evaluate number of patients identified with prediabetes & number of referrals placed during implementation
- Compare implementation data to pre-algorithm implementation data from corresponding time frame in 2019 and 2021

Aim 3: Sustain and Scale

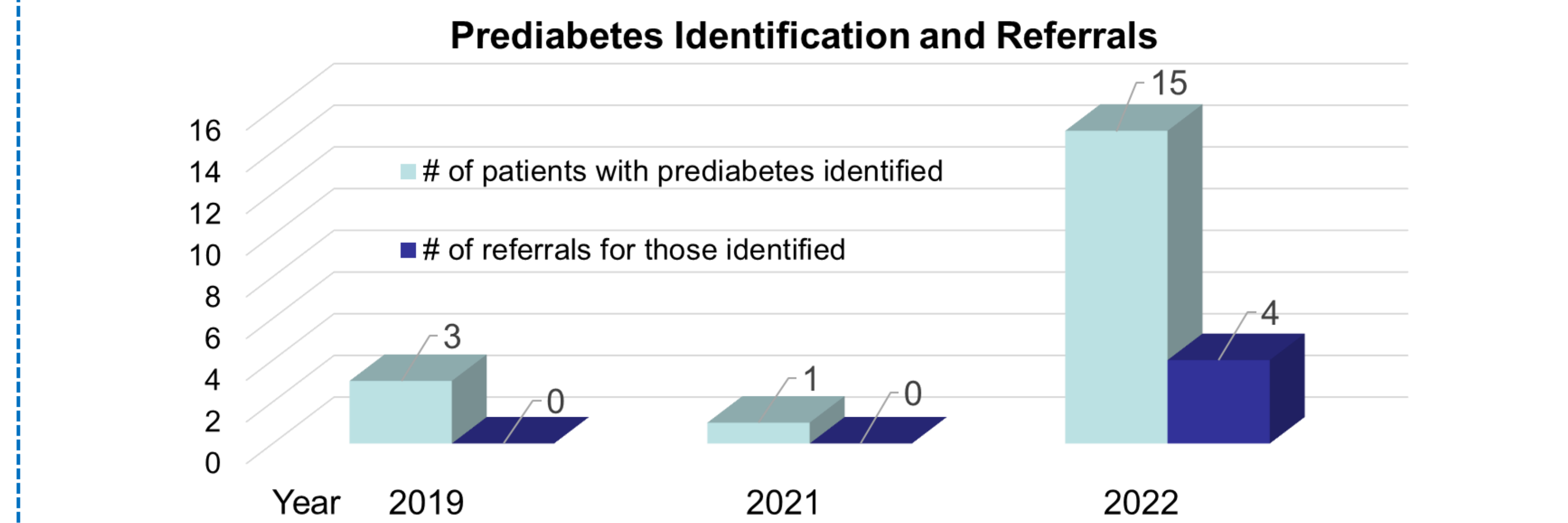
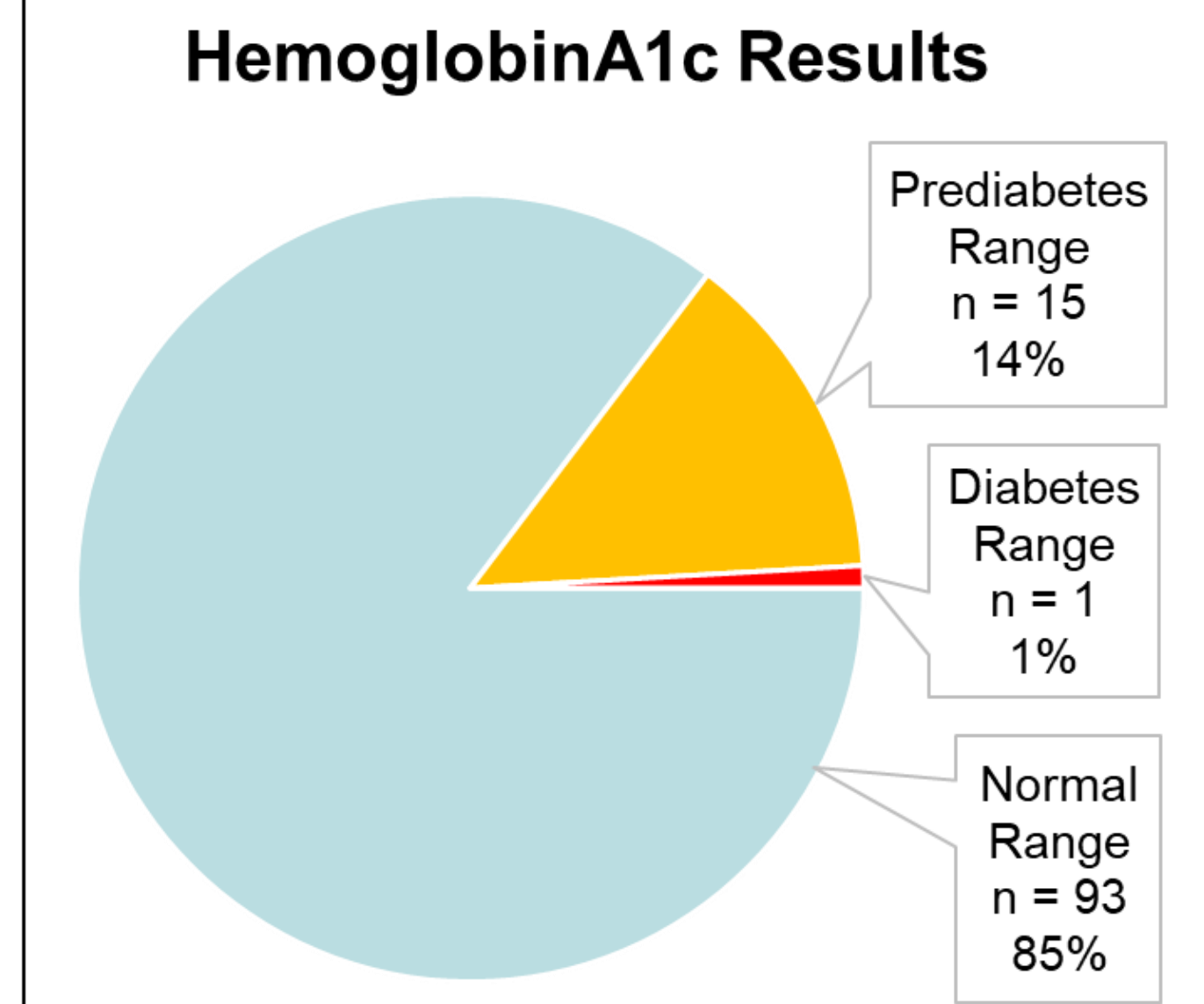


RESULTS



Practice & Project Demographics

	Practice n (%)	Project n (%)	Project Compared to Practice
Age			
Under 39	1345 (24%)	84 (27%)	+3% (p=NS)
40-49	634 (11%)	48 (15%)	+4% (p=NS)
50-59	843 (15%)	71 (22%)	+7% (p=.033)
60 or older	2814 (50%)	113 (36%)	-14% (p<.008)
Total	5636	316	
Gender			
Male	3019 (54%)	170 (54%)	=
Female	2617 (46%)	146 (46%)	=



PRACTICE IMPLICATIONS

- Algorithm feasible & cost-effective with a marked increase in prediabetes identification and referrals
- Inconsistent screening criteria & definition of prediabetes among organizations
- Conduct additional studies on more diverse populations & patients' readiness for change

REFERENCES

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