



Increasing Screening and Treatment for Diabetic Retinopathy in Safety Net Clinics



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BACKGROUND

Over 30 million people in the U.S. have diabetes and approximately one in three of those individuals over the age of 40 have diabetic retinopathy, the leading cause of blindness in adults costing \$620 million in the U.S. per year. People with diabetes should be screened for retinopathy at least every 2 years. The national screening rate for diabetic retinopathy is around 60% in the insured population with safety net clinics rates dropping close to 20%. Among free and charity clinics many are not screening at all and the rates are undetectable.

A third of people with diabetic retinopathy have proliferative changes or macular edema needing emergent surgery. The standard of care is to receive laser and/or injections of anti-VEGF and the cost of these treatments to a patient over a two year period is between \$10,290 and \$25,176 respectively.

The free Virginia G. Piper St. Vincent de Paul Medical Clinic (SVdP) serves as the hub of the Arizona Safety Net allowing the other 40+ primary care free, low cost and FQHC clinics that care for the uninsured to have a resource to send their patients for specialty care. In 2019 the SVdP clinic purchased equipment and recruited providers to bridge the gap in diabetic retinopathy screenings and treatment for the uninsured.



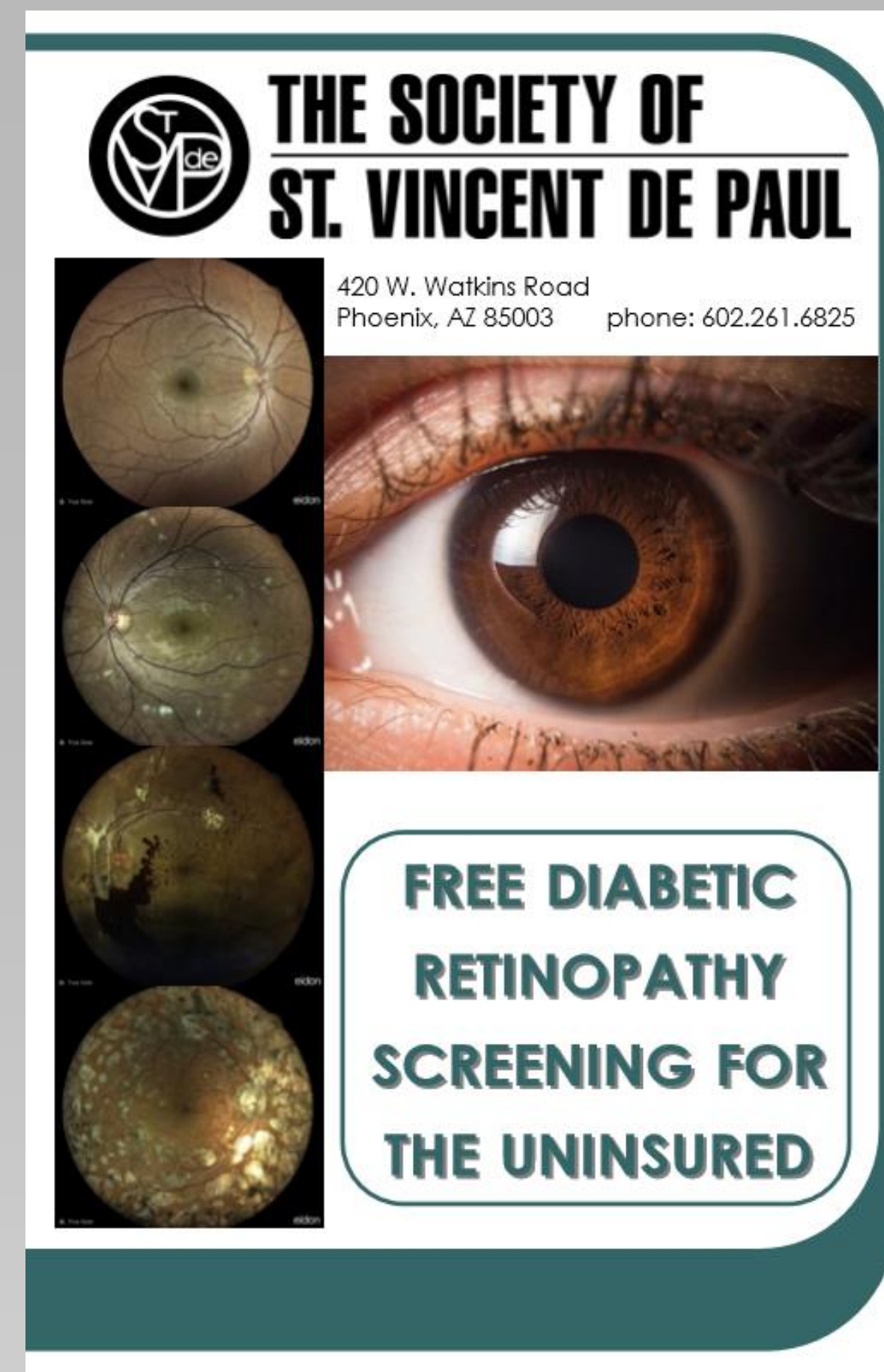
OBJECTIVE

Increase screening rates and treatment for diabetic retinopathy in the uninsured population.



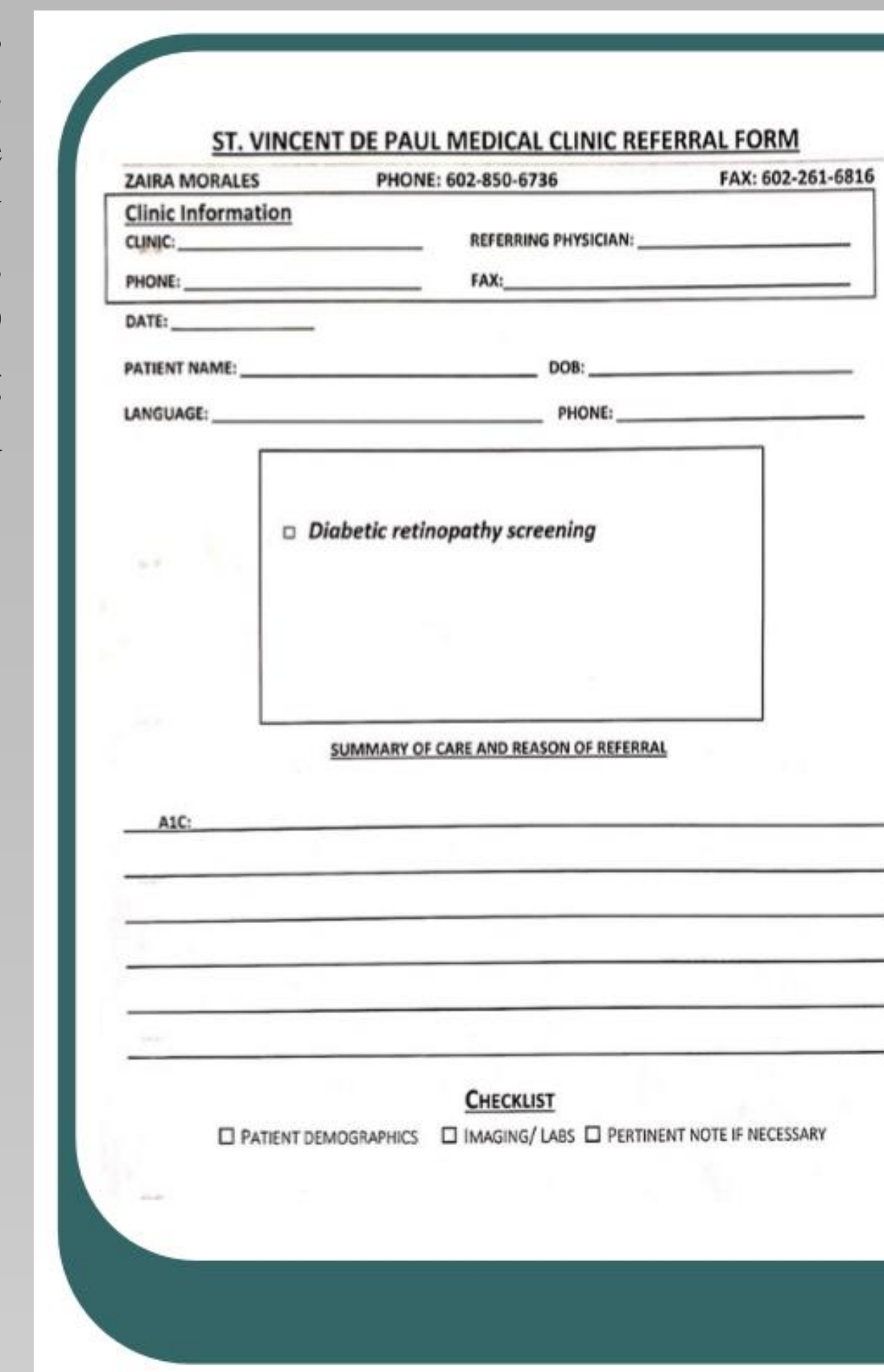
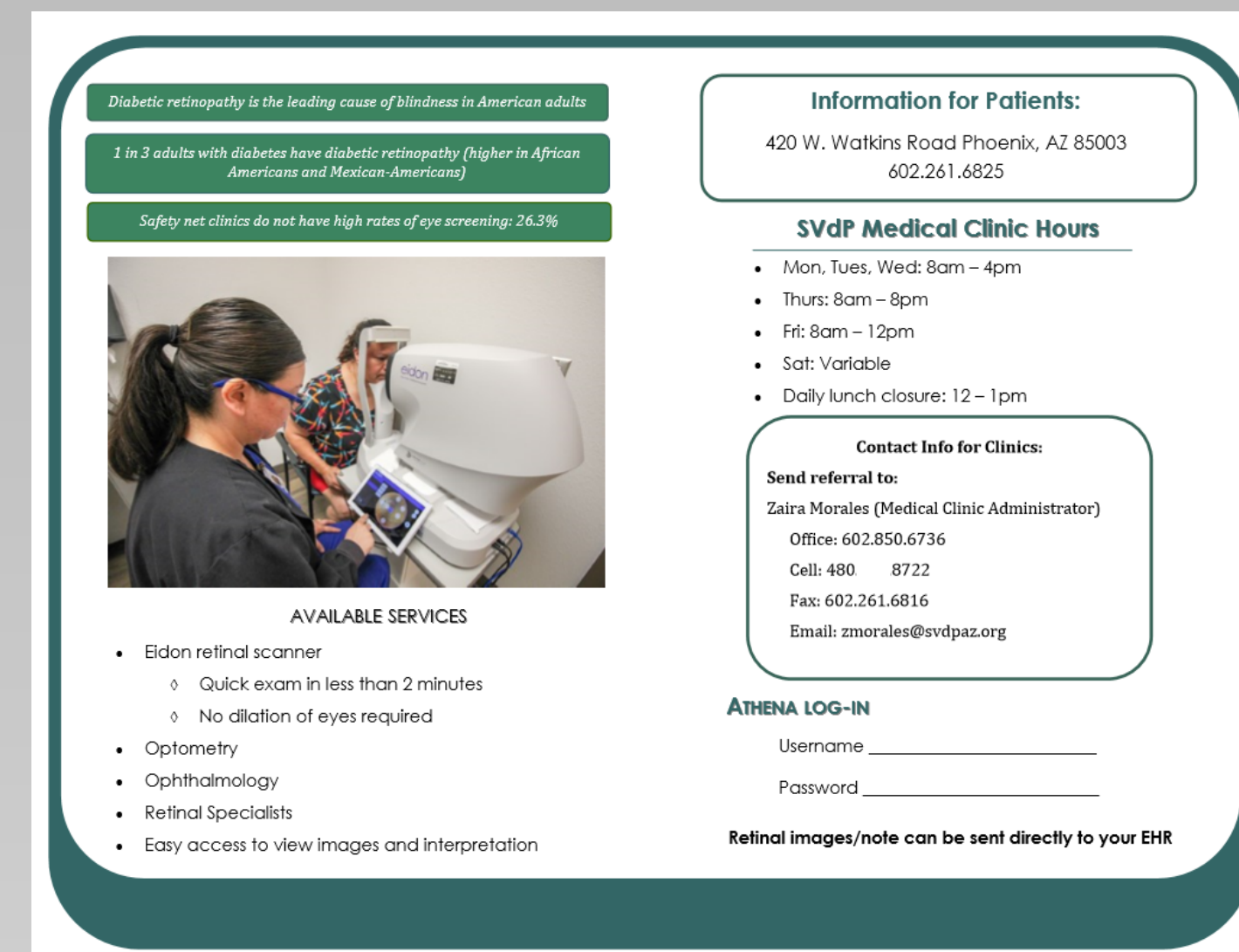
Evaluating for macular edema with a Topcon Maestro ocular coherence topography machine

METHODS / MATERIALS



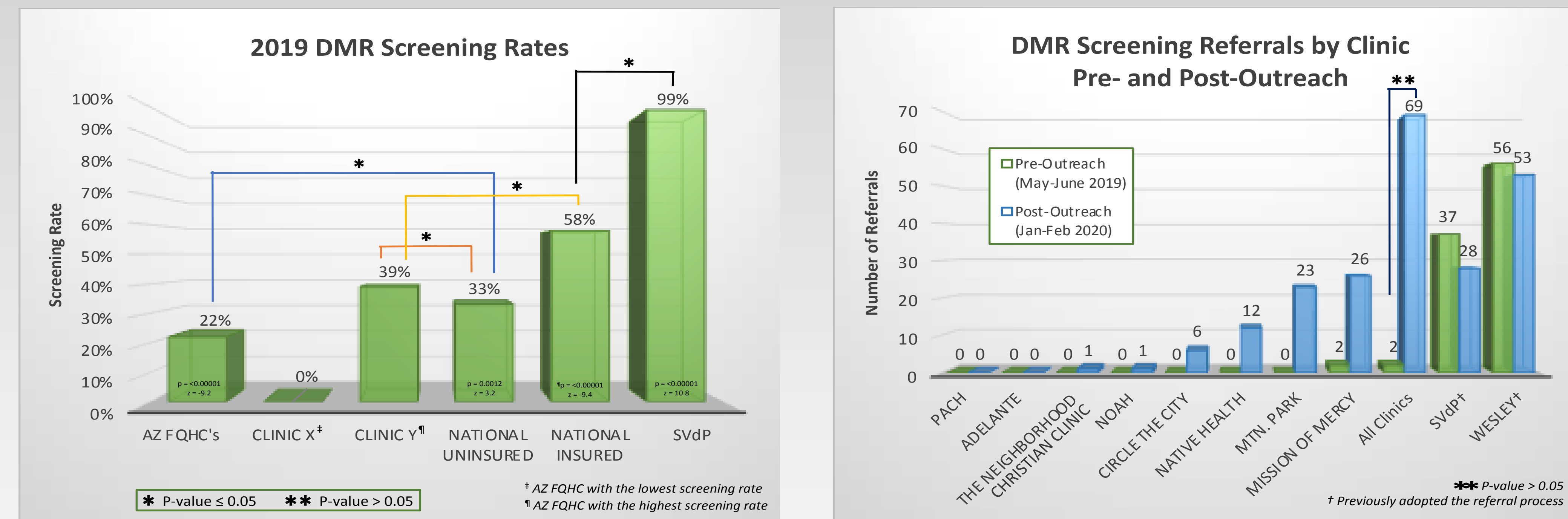
Outreach brochure for referring clinics

A retrospective electronic medical record review of all patients referred for diabetic eye exams at St. Vincent de Paul was performed after an outreach period to increase screening rates. Pre and post outreach rates were compared for clinics not previously utilizing SVdP's eye services using a t-test. A subset of the patients who received a diabetic retina exam from 01/01/2019-12/30/2019 were analyzed for rates of abnormal screenings, those needing intervention and whether or not they were able to get treatment and compared to the national average using a z-score.

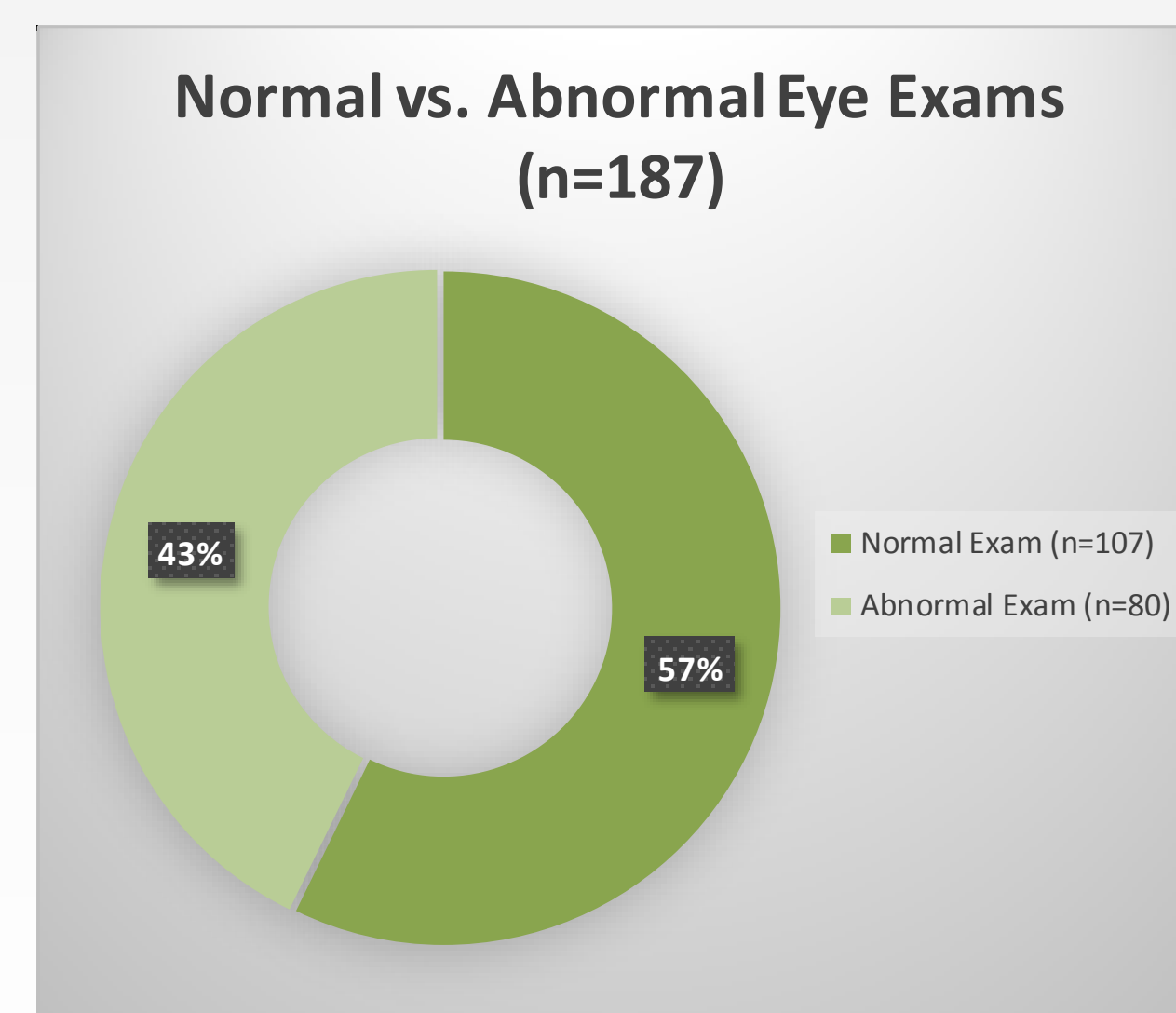


RESULTS

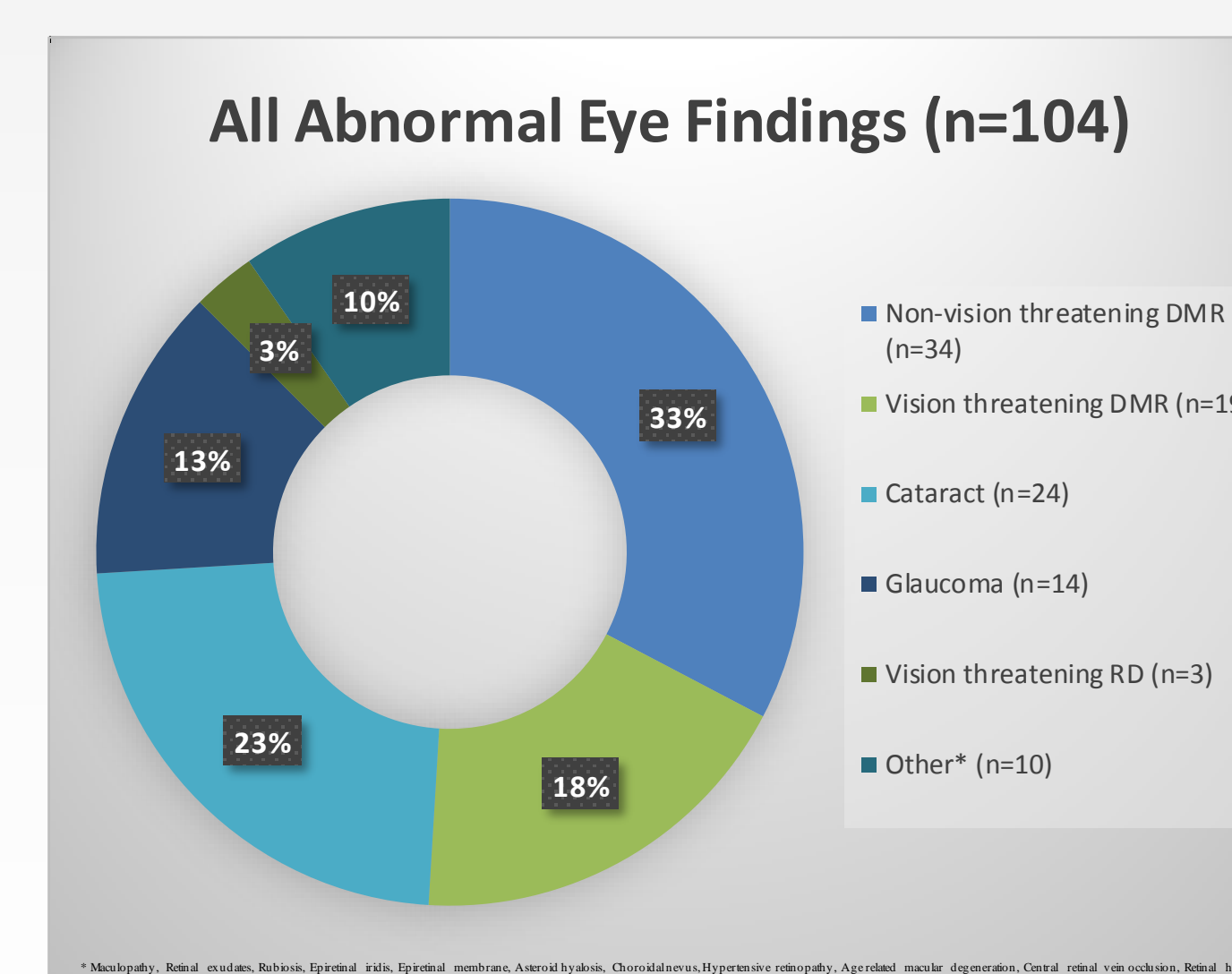
Diabetic Retinopathy Screenings



DMR and Other Abnormal Findings



The first laser treatment at SVdP



CONCLUSION

DMR screening referrals increased 3350% (t-test 2.36, p<0.053), as a whole for the patients at Safety Net clinics showing a trend towards significance. The largest increase was 1200% while the lowest was 0%. Overall, the Arizona Safety Net clinics are screening significantly below the national insured and uninsured rates z-score and p-value -37.30, p<0.00001 and -9.19, p<0.00001 respectively.

The rates of DMR at SVdP are higher/lower/equivalent to the national average p-value X. Of those with DMR X% had vision threatening disease needing treatment (higher/lower/equivalent to the national average p-value X). Of those with vision threatening disease X% had documented treatment in their chart.



DM retinopathy screen with Eidon retinal scanner

DISCUSSION

FQHCs payer mix is typically about 15%, yet the low baseline rate of DMR screenings unmasked a larger issue with preventative screenings in Safety Net Clinics for both uninsured and insured patients. The average rate of DMR screenings was 22% although the expected average given the demographic breakdown should be closer to 55%. Given this information it is assumed Safety Net providers would refer for free diabetic retinopathy screenings yet the only system out of the 9 in the Arizona Safety Net that had an initial increase was the Wesley Health Center. There were a number of barriers identified by the Safety Net providers.

- ☹ Not knowing about the resource due to lack of transparency within their organization.
- ☹ Wanting a visual acuity, intraocular pressure and free glasses, rather than DMR screenings.
- ☹ Unwilling to screen without an identified resource for treatment in place.

During the Arizona Safety Net meetings brochures were passed out to each clinic representative to share with their providers and referral specialists. Each clinic was contacted individually as well and offered help with disseminating information about the referral process. At these meetings evidence was reviewed pointing out the lack of strong recommendations for population based acuity and intraocular checks and although free glasses are a perk, they are not useful in an uncontrolled diabetic population as the prescription will rapidly change once they become controlled. The providers were adamant that without a retinal specialist who will treat their patients they were unwilling to be uncomfortable with uncertainty of treatment options.

To bridge the need for increased screenings and treatment the Thunderbirds Charities paid for an Eidon retinal scanner and Topcon Pascal laser and Maestro optical coherence tomography machine in order to recruit retinal specialists. Anti-VEGF injections are available for free through the pharmaceutical patient assistance programs.

With these interventions there was an increase in screenings and it is expected that most clinics will follow the in the Wesley Health Center's footsteps implementing policies that will institutionalize their process for referring uninsured patients for DMR screening. It is assumed the Arizona Safety Net clinics will modify their process for their insured patients as well in order to avoid a paradoxical disparity for DMR screenings and treatment.

Acknowledgements

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