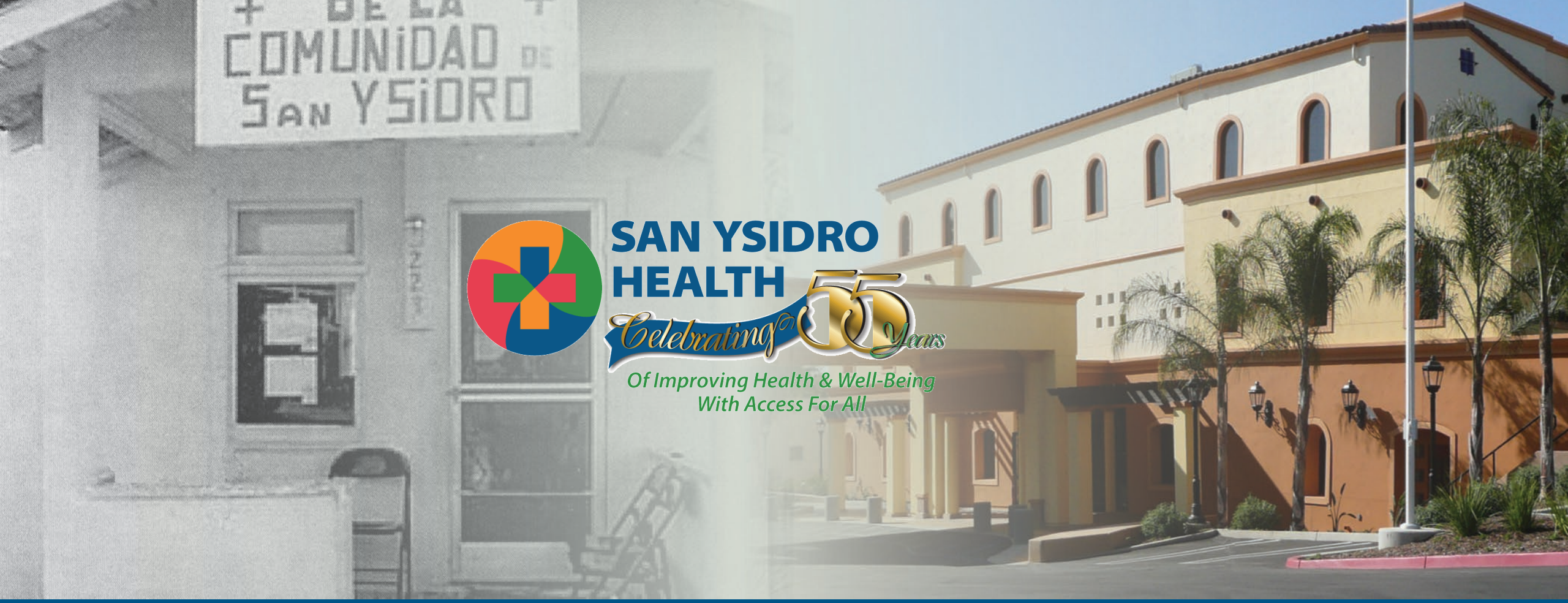


Diabetic Retinopathy Screening Point-of-Care Artificial Intelligence

(DRES-POCAI)

NCQA Health Innovation Summit 2025

DRES-POCAI: Experienced Leadership Committed to Health Equity

Sonia Tucker – Vice President of Population Health

- Leads population health initiatives, inclusive of quality of care, risk management, patient access and experience, etc.
- Currently serves as the Co-Principal Investigator for DRES-POCAI's research phase

Edgar Diaz – Director, Research and Health Promotion

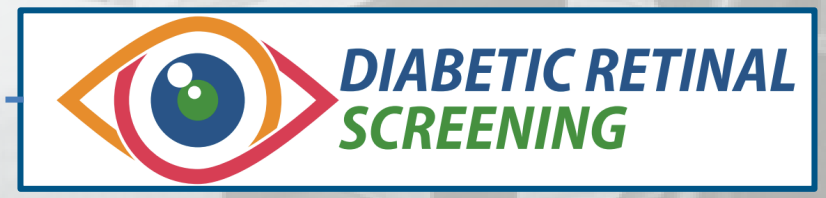
- Extensive background in leading the implementation of large multidisciplinary and collaborative research projects
- Currently serves as Co-Investigator of DRES-POCAI's research phase

SAN YSIDRO HEALTH

San Ysidro Health & DRES-POCAI: Transforming Diabetes Care Access

San Ysidro Health:
A leading Federally Qualified Health Center (FQHC) providing medical, dental, and behavioral health services to over 160k diverse, underserved patients in San Diego County for more than 55 years.

DRES-POCAI:
A transformative, innovative, and sustainable Artificial Intelligence - Diabetic Retinopathy screening service delivered within the primary care setting to advance access to care for patients at community health centers.



SAN YSIDRO HEALTH

San Ysidro Health & DRES-POCAI: Transforming Diabetes Care Access

Diabetic retinopathy is a serious eye condition caused by damage to the blood vessels in the retina, the light-sensitive tissue at the back of the eye, due to diabetes. **It is the leading cause of vision loss and blindness in working-age adults**. Early detection and treatment can significantly reduce the risk of vision loss.

Stages of Progression

More-than-Mild Diabetic Retinopathy:

This is the early stage where blood vessels in the retina weaken and may leak fluid or blood, dot-and-blot hemorrhages; cotton-wool spots and hard exudates may be present.

Vision Threatening Diabetic Retinopathy:

This is a more advanced stage where swelling of the central part of the retina responsible for sharp, detailed vision and new, abnormal blood vessels grow on the retina. These new vessels are fragile and can bleed easily, leading to vision loss.

> ***"I am going blind, so I always stop to look at the sky"***
>
> Bob LaMeres, 69
> Vision threating diabetic Retinopathy diagnosis

SAN YSIDRO HEALTH

Diabetic Retinopathy Disproportionally Impacts Communities Served by FQHCs

- Leading cause of preventable blindness, costing Over $70 Billion annually.
- Affects 9.6 million people in the U.S.
- Deep inequity as it affects underserved communities most.
- Only 35% of San Ysidro Health patients (low-income, diverse) complete timely screenings due to social determinants of health.
- Current referral system creates access barriers (time, insurance, cost, transportation, navigation).
- Significantly impacts quality of life, affecting daily activities, social interactions, and overall well-being.

SAN YSIDRO HEALTH

DRES-POCAI: System Transformation for Equitable Eye Care

- **Solution:** Integrate Artificial Intelligence (AI) -Diabetic Retinopathy screening directly into the primary care setting

  “Right Care, Right Time, Right Place".

- **Immediate Impact:** Accurate results & risk stratification in minutes.

- **Transforms Care:** Eliminates barriers to access, enables timely diagnosis, appropriate referral, and treatment. Empowers providers and patients by providing tools to manage their condition.

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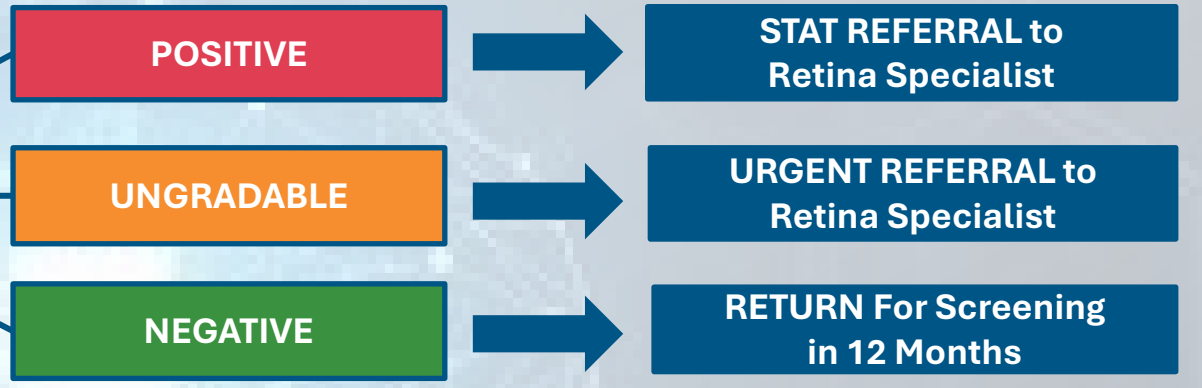
DRES-POCAI: Use of AI Technology for Risk Stratification



Better Patient Outcomes:

Supports clinical decision-making, early diagnosis & timely treatment

Optimization of Limited Health Resources:

Referrals to eye specialists only when needed

Immediate Results at the Point-of-Care

Actionable results immediately after the test

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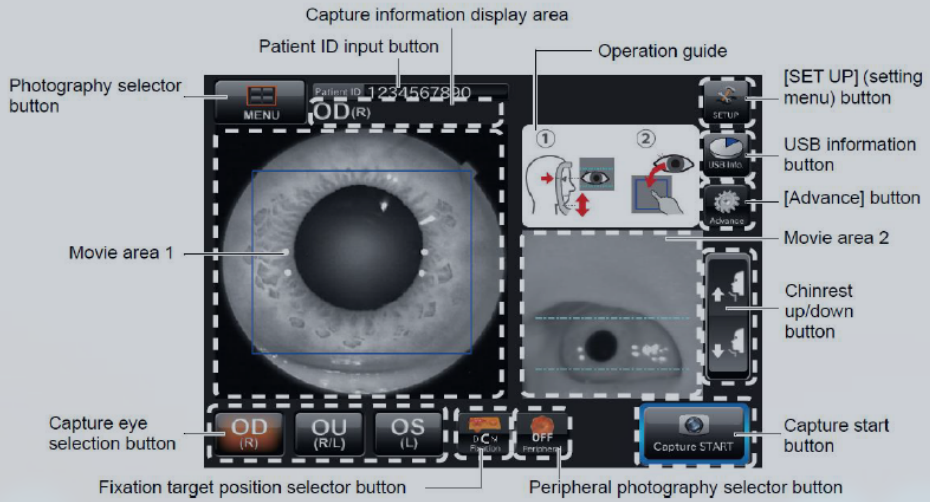
The Solution

Diabetic Retinopathy Screening Equipment

Using Topcon NW400 camera

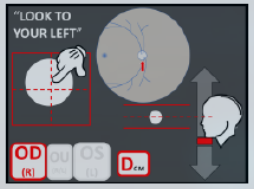
ART-QGFP-TOP-20230926



The eye being imaged can be changed by selecting the "OD (R)" and "OS (L)" buttons to switch to the right and left eye respectively. The fixation can be changed by selecting "D" (Optic Disc), "C" (Central) or "M" (Macula) in the fixation selector button.

Press "OD (R)" and "OS (L)" buttons to switch to the right and left eye respectively

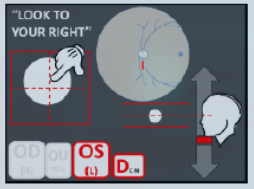
(a) Right Eye Optic Disc Centered



Switch to Optic Disc centered images by selecting 'D'

Switch to Macula centered images by selecting 'M'

(b) Left Eye Optic Disc Centered

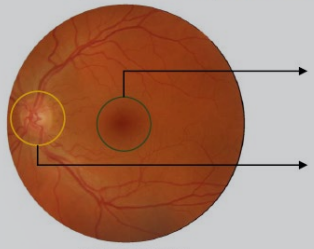


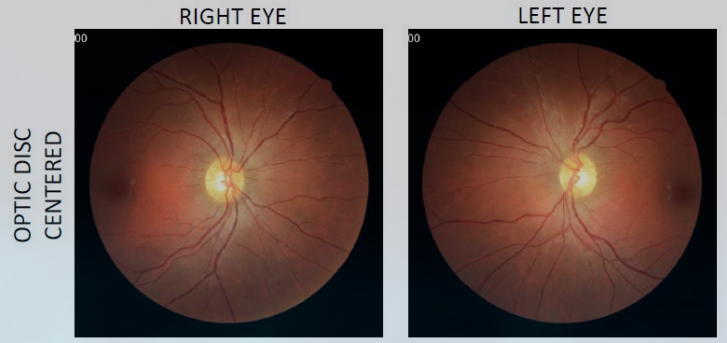
Switch to Optic Disc centered images by selecting 'D'

Switch to Macula centered images by selecting 'M'

Eye Anatomy and 2-Field Imaging

ART-QGFP-TOP-202309





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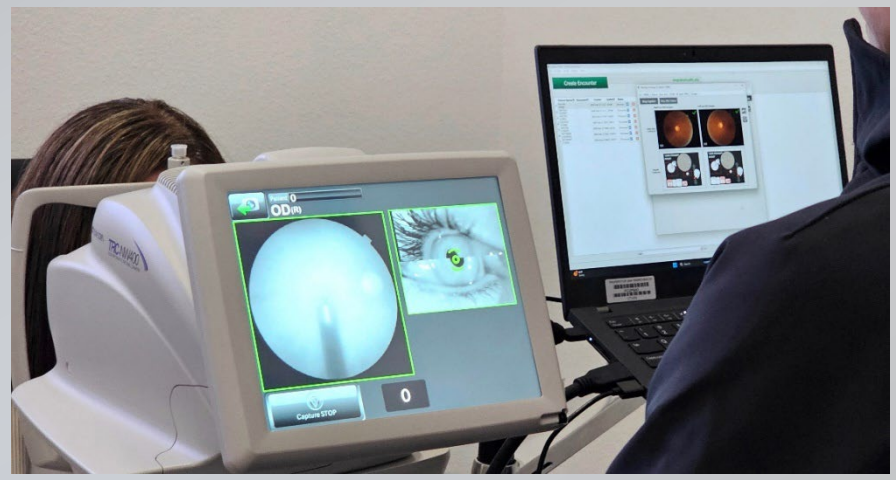
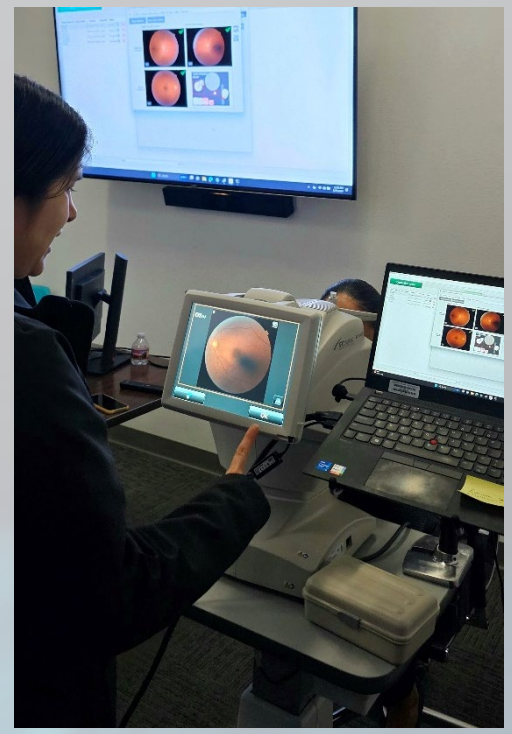
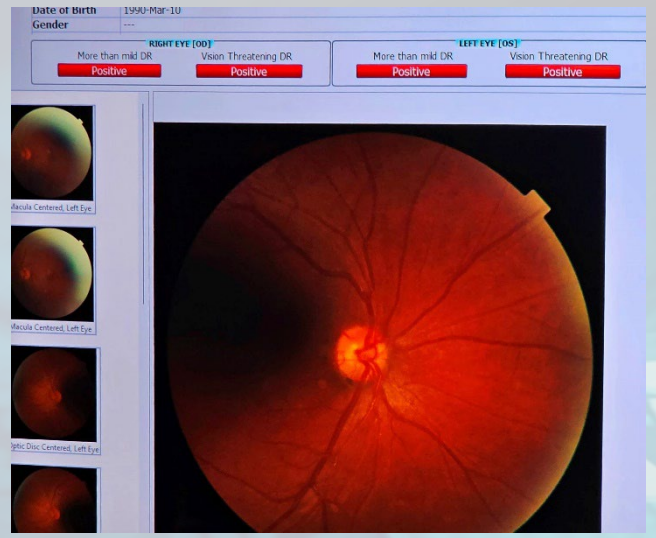
DIABETIC RETINAL SCREENING

Diabetic Retinopathy Screening Equipment







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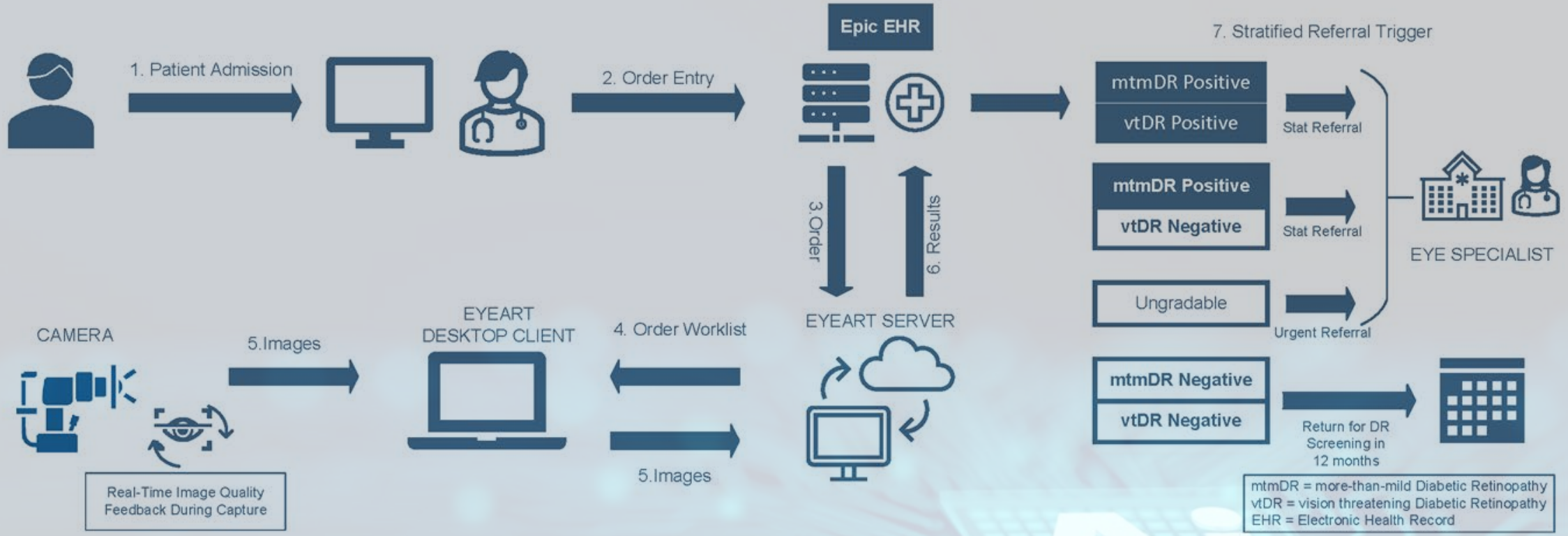
DIABETIC RETINAL SCREENING

Solution Integration within EHR



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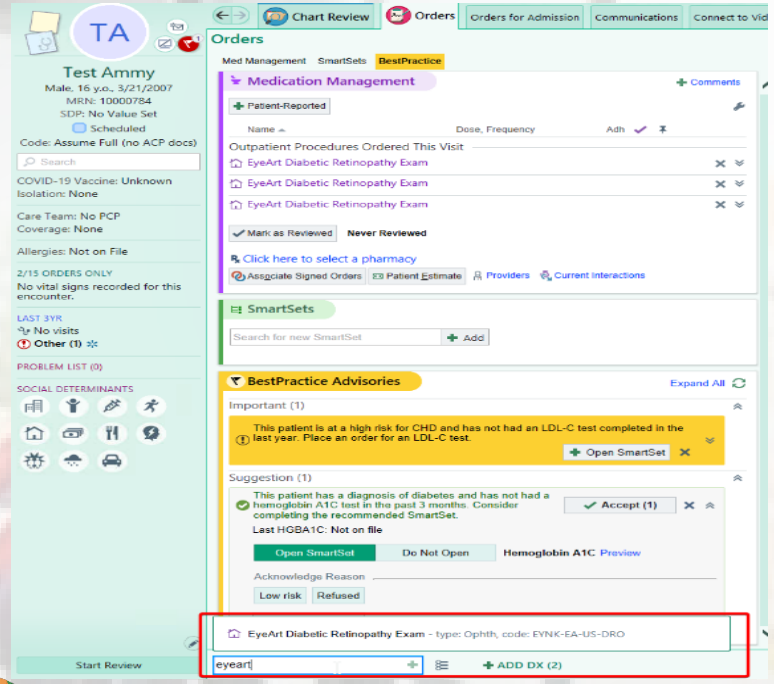
DIABETIC RETINAL SCREENING

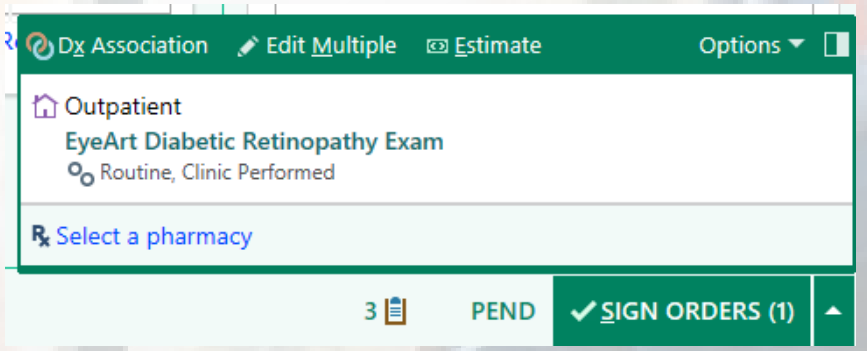
DRES-POCAI: Integration into SYH EHR – Pre-screening Process

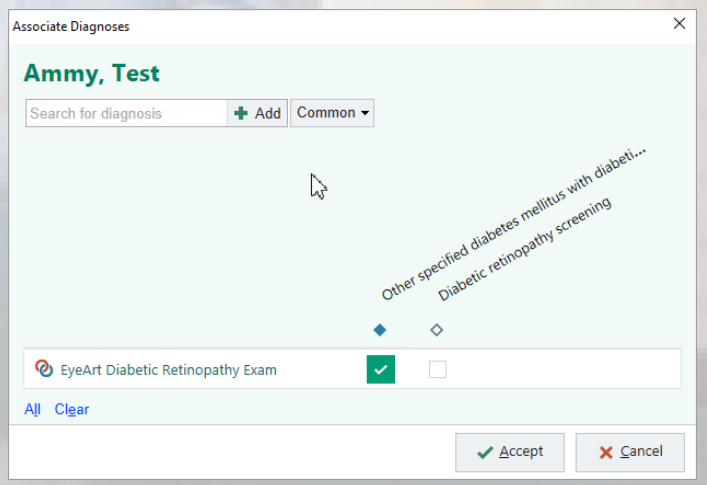
1 - In an encounter, order the EyeArt Diabetic Retinopathy Exam in the Visit Taskbar

2 - Procedure will appear in Oder Shopping Cart

3 - Association of proper diagnosis to procedure







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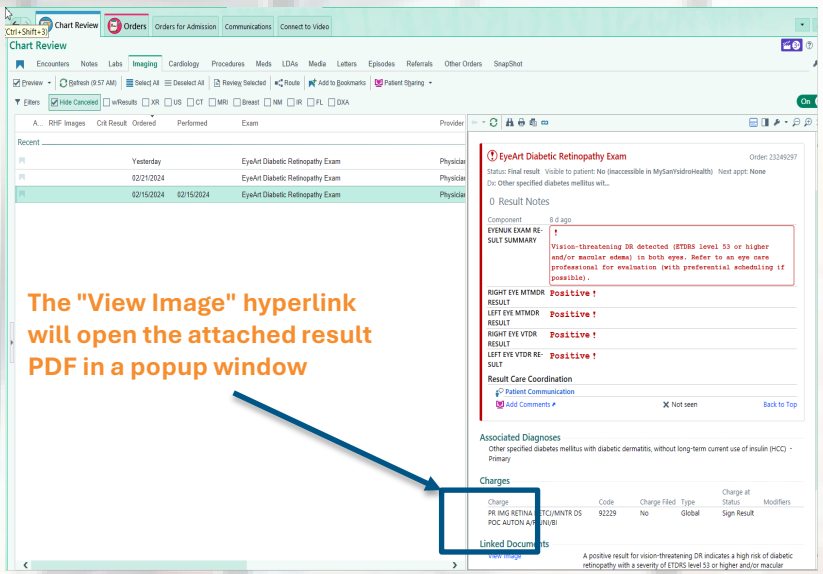
DRES-POCAI: Integration into SYH EHR – Pre-screening Process

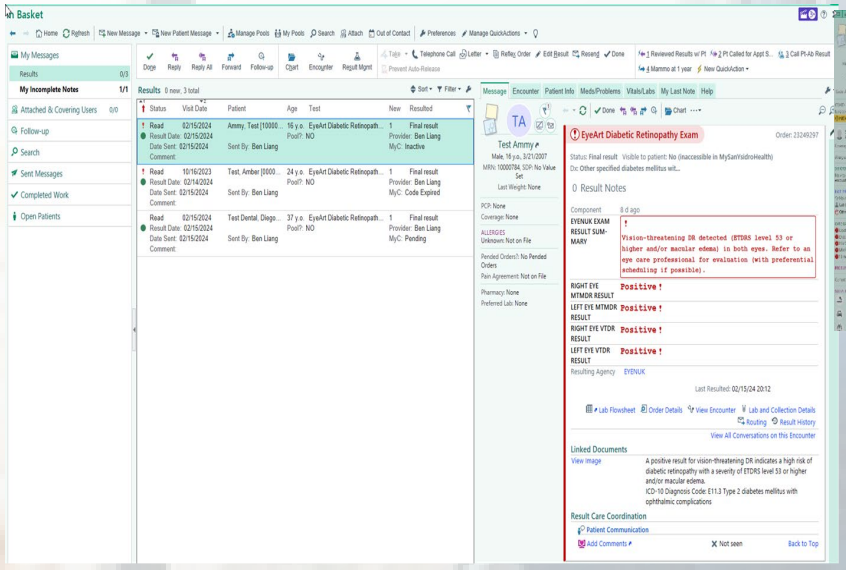
4 - In Chart Review

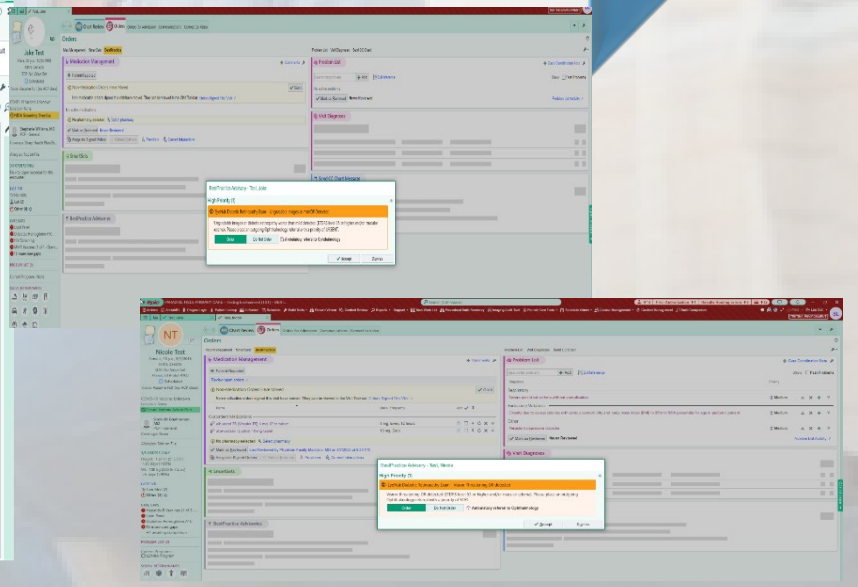
5 - The authorizing provider will receive a result In-Basket message to review the results

6 - Automated referral process – Urgent or STAT according to the results.



The "View Image" hyperlink will open the attached result PDF in a popup window





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DRES-POCAI: Systems Transformation in Primary Care

Screening Results in Minutes

- Uses AI technology approved by the Food & Drug Administration to detect more than mild & vision-threatening retinopathy providing immediate results at the Point-of-Care

Intelligent Interaction with the Electronic Health Record System

- AI generated results are automatically documented in the Electronic Health Record system, trigger risk-based stratified referrals, and prompts provider for review & approval (True Systems Transformation)

Leading FQHC Innovation

- Unique integrated system designed to improve quality of care for people with diabetes
- First FQHC in the West Coast to provide AI-Diabetic Retinopathy Screenings
- System integration developed in-house for San Ysidro Health, a precedent setting innovation that is ***first of its kind***

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Service Differentiation

DRES-POCAI: Phased Execution for Scalable, Sustainable Impact

Research phase

Operational Phase

ROADMAP

INTERNAL RESEARCH PHASE (2024-2025)

Assessed the benefits and efficiency of point-of-care diabetic retinopathy screenings

QUALITY IMPROVEMENT PHASE (2026-2027)

Optimize clinical implementation, establish workflows & test billing processes and reimbursement rates

SUSTAINABILITY PHASE (2026 & Beyond)

Negotiation to maximize revenue from health plans for AI-powered screenings

METRICS

Increased Screening Rates by ~30% in Enrolled Participants

Workflow Efficiency
Revenue vs. Cost &
Payer Engagement Progress

Improved Reimbursement Rates &
Outcome-Based Incentives

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Service Roadmap & Metrics

DRES-POCAI (Research Phase): Recruitment and Data Collection

DRES-POCAI Aims to evaluate the implementation and effectiveness of a multicomponent AI Clinical Intervention using a patient-level randomized controlled clinical trial.

SYH-Chula Vista

SYH-King Chavez

SYH-Ocean View

Intervention Sites

Inclusion criteria: SYH patients with DM **who have not had a retinal exam in the last 11 months** and:

1) Established and active patients of SYH-CV and KC (having had a medical appointment in the last 18 months);
2) 22 years of age or older;
3) Medical appointment scheduled during the intervention period.

Exclusion criteria:

1) Have a prior diagnosis of DR, macular edema, or retinal vascular occlusion;
2) Have persistent visual Impairment in one or both eyes;
3) History of ocular injections, laser treatment of the retina, or intraocular surgery (excluding cataract surgery);
4) Diagnosis of mental or degenerative disease that prevents self-consent for the study.

SAN YSIDRO HEALTH

DRES-POCAI: The Team

Fatima Munoz, MD, MPH
Associate VP Health Support Services

Sonia Tucker, MD, MBA
VP Population Health

Edgar Diaz, MD
Director of Research

Sharon Velasquez, MD
Associate Chief Medical Officer

Oliver Solis, OD
SYHC Optometrist

Brian Snook, DO
Associate Chief Medical Officer

UC San Diego **Research Evaluation Partner**

EYENUK **AI Partner and Subject Matter Expert**

Nicole Stadnick, PhD, MPH
Associate Professor

Marva Seifert, PhD
Assistant Professor

Chaithanya Ramachandra, PhD
Head of R&D

Malavika Bhaskaranand, PhD
Head of Product Management

Sandeep Bhat, PhD
Head of Engineering

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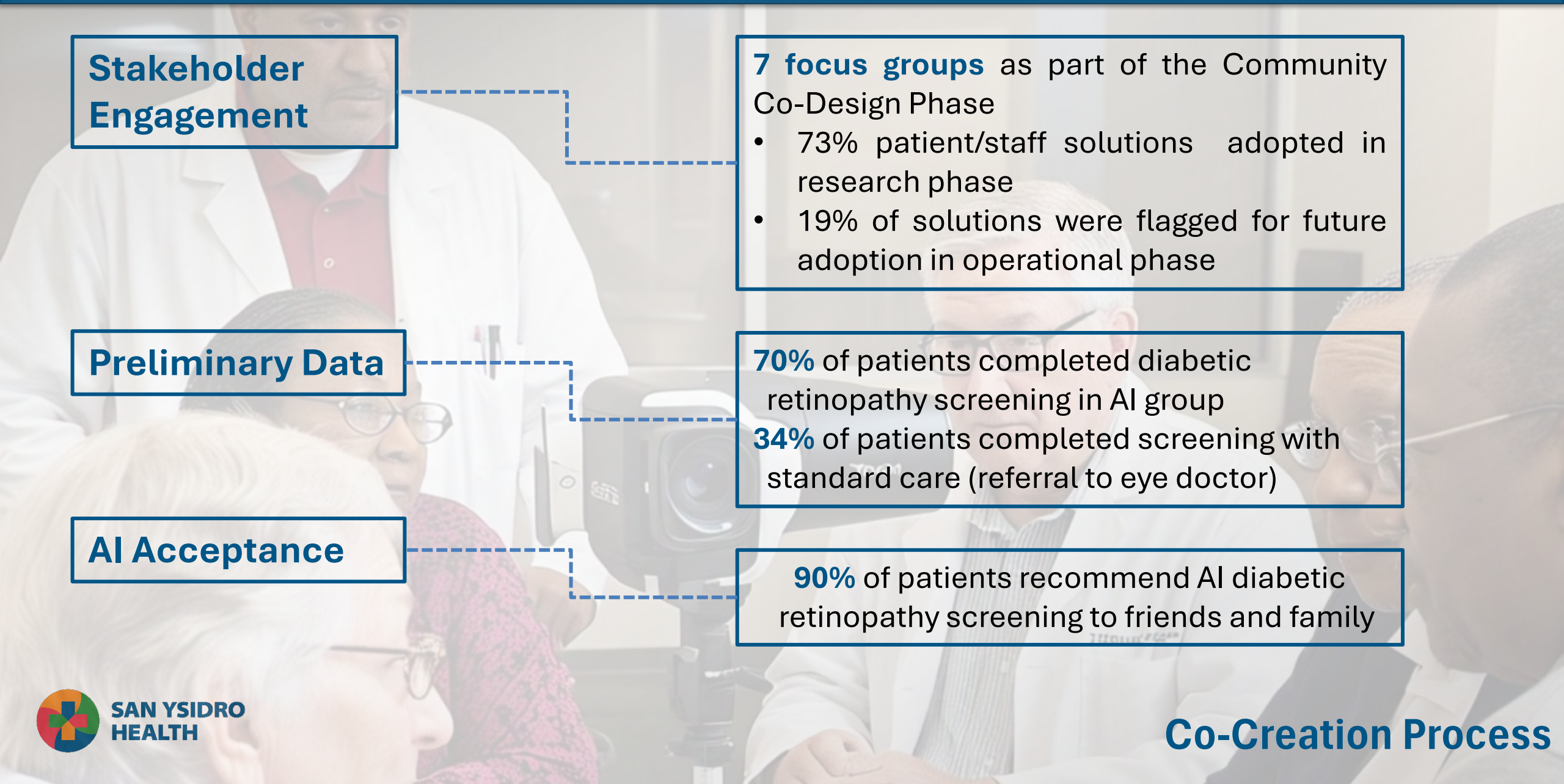
Research Partnership

DRES-POCAI SYHealth Research: Co-Designed Implementation Process



Stakeholder Engagement

7 focus groups as part of the Community Co-Design Phase

- 73% patient/staff solutions adopted in research phase
- 19% of solutions were flagged for future adoption in operational phase

Preliminary Data

70% of patients completed diabetic retinopathy screening in AI group

34% of patients completed screening with standard care (referral to eye doctor)

AI Acceptance

90% of patients recommend AI diabetic retinopathy screening to friends and family

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Co-Creation Process

DRES-POCAI: Sustainable Model for Long-Term Impact

Phase 1: Generate revenue via billable PREVENTIVE PRIMARY CARE VISITS for patients with diabetes that include AI-screening

Phase 2: Use Phase 1 data to secure ENHANCED PAYER REIMBURSEMENT & INCENTIVES for long-term sustainability
(Increased screenings + improved outcomes)

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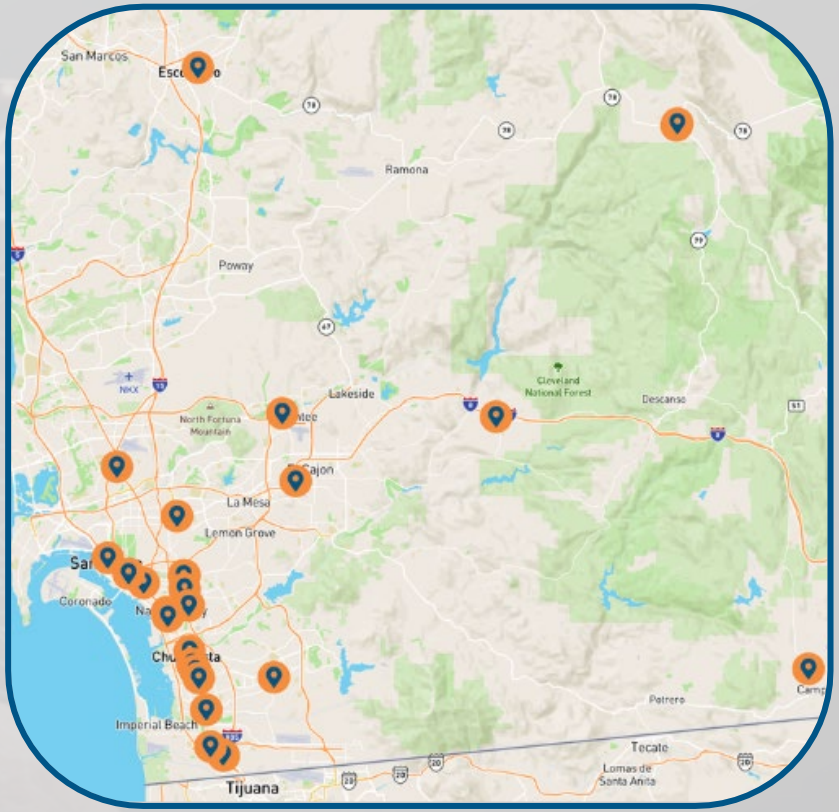
DRES-POCAI: Leveraging Existing Infrastructure for Targeted Reach

Patient Identification: Use data to proactively identify & engage San Ysidro Health's unscreened diabetic patients.

Phased Expansion: Establishing services at 3 high-volume clinics across San Ysidro Health's network.

Mobile Clinics: Utilize mobile clinics to reach rural and small volume clinics and other underserved communities.



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AI Implementation and Opportunities for FQHC

Implementation Considerations:

1. Data Readiness & Infrastructure
2. AI Models must be trained in diverse, representative datasets
3. Staff Training on AI Tools and Implementation of change management strategies to improve buy in.
4. Cost and Funding: Partnership, grants, and focus on areas that improve efficacy and patient outcomes.
5. Solution must be HIPAA compliant.
6. Ensure transparency on how the AI solution works.

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AI Implementation and Opportunities for FQHC

Opportunities Considerations:

1. Clinical Decision Support – DRES-POCAI is a great example.
2. Operational Efficiency
3. Population Health Management
4. Predictive Analytics

Summary: You should assess Readiness, Start small, engage patients and providers, and measure impact.

SAN YSIDRO HEALTH

DRES-POCAI: Preserving Vision and Empowering Lives

Ultimately, **DRES-POCAI is about more than AI and efficient workflows**. It's about **preventing blindness and enhancing lives** in the communities we serve

By bringing accessible, efficient AI screening directly into the primary care setting, we replace months of waiting and uncertainty with immediate, actionable results. This means early detection of diabetic retinopathy, often before symptoms appear, allowing for timely treatment that **can prevent irreversible blindness**

Seeing the World with Normal Vision

Seeing the World with Diabetic Retinopathy

Imagine the Impact

Individuals maintaining their independence, continuing to work, and engaging fully with their families and communities. This isn't just about improving health outcomes; it's about upholding dignity, reducing the profound personal and family burden of vision loss, and lowering long-term healthcare costs

SAN YSIDRO HEALTH

Closing Statement

DRES-POCAI: Contact Information

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Dr. Sonia Tucker
VP, Population Health
sonia.tucker@syhealth.org

Thank you

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Contact Information