

# Building and Supporting Custom Systems to Deeply Engage Community Partners

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# Where is El Paso?

- Borders of New Mexico and Mexico
- Geographically isolated
  - El Paso to San Antonio: 551 mi
  - El Paso to Austin: 576 mi
- Large Hispanic population (82.9%)
- Low-income population
  - 18.6% live in poverty
  - 26.9% of children live in poverty
- Unique border culture



# Who is PHIX?

- Non-profit founded by El Paso health leaders in 2010.
- Facilitate clinical data sharing between hospitals, clinics, public health, and other health providers utilizing health information exchange technology.
- Leverage data to solve local challenges.



# Community relationships and custom programming are core to all of PHIX's services



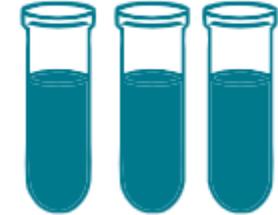
Clinical Viewer



PHIXmail Secure Messaging



Notifications



Lab Ordering and Results System



Vaccine Information Exchange



Closed-Loop Referrals



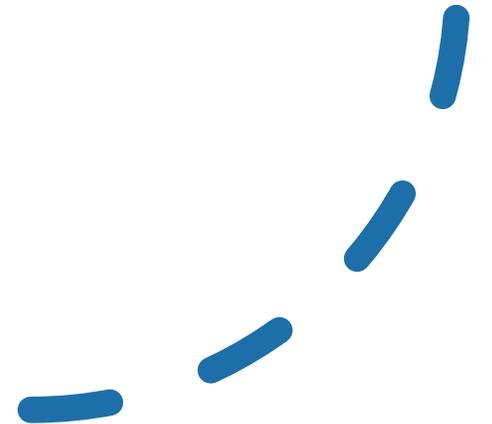
Trauma Image Sharing

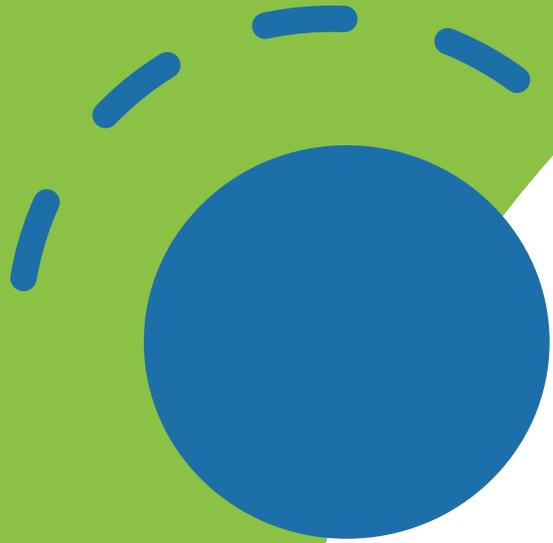


Data Analysis

# Roadmap

- Data integration philosophy
- Custom programming to meet local needs
- Analytic power of deep community data
- Impact on health equity





# **Data Integration Philosophy**

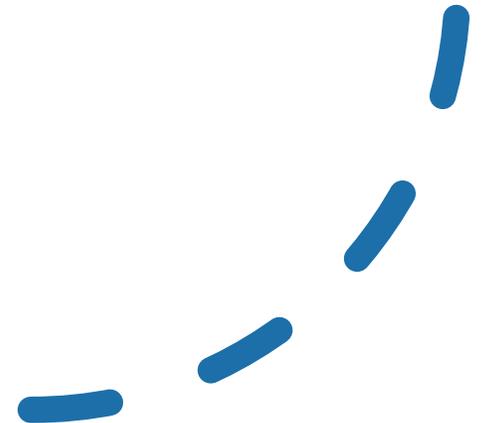
Focused on  
depth of data  
sharing in  
our region

## **Traditional data sharing connections**

- Hospitals
- Emergency Departments
- Large clinics
- Federally Qualified Health Centers
- Laboratories
- eHealth Exchange

## **Harder to reach data sharing connections**

- Small practices (1-5 physicians)
- Mental health providers
- Diabetes educators and nutritionists
- Local public health
- Crisis response providers
- Social service providers



# Challenges to Deep Community Integrations

## Cost

- HIE Fees
- EHR or other vendor fees

## IT Infrastructure

- Little to no internal IT expertise
- Outsourced IT

## Belief and Trust

- Do not believe that vendors/IT keep promises
- Difficult to earn trust





# Business Strategy to Address Challenges

## **Maintain low fees and avoid EHR fees**

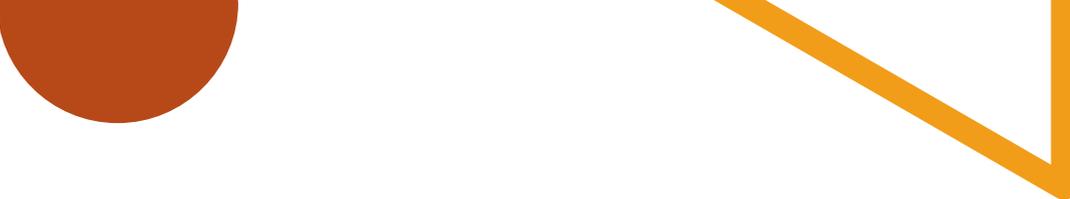
- Maintains low fees low for small organizations
  - Example: \$600/year membership fee for private practices with less than 5 physicians
- Avoid EHR vendor fees by leveraging custom programming
- Supplement with revenue from other value-add services

## **Supplement IT resources**

- Supplement partner staff with PHIX informaticists

## **Build trust through focused custom service**

- “Customer service” focused approach to every aspect of PHIX’s operations
- 



# Technical Strategy to Address Challenges

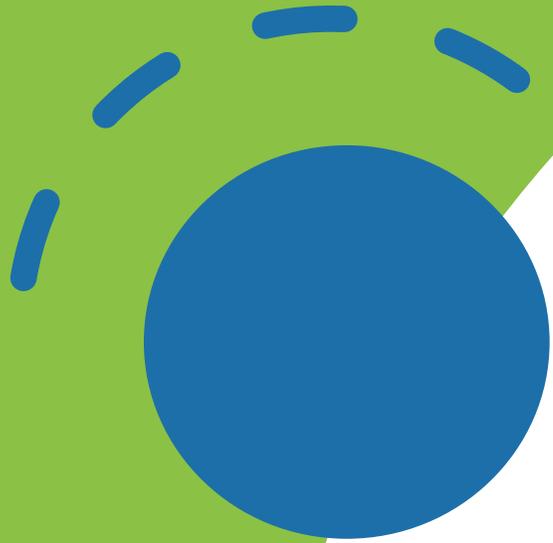
## **Meet partners where they are.**

- PHIX informaticists review strategies to pull/push data from each system.
  - Leverage custom programming to integrate with any data type, format, and/or standard.
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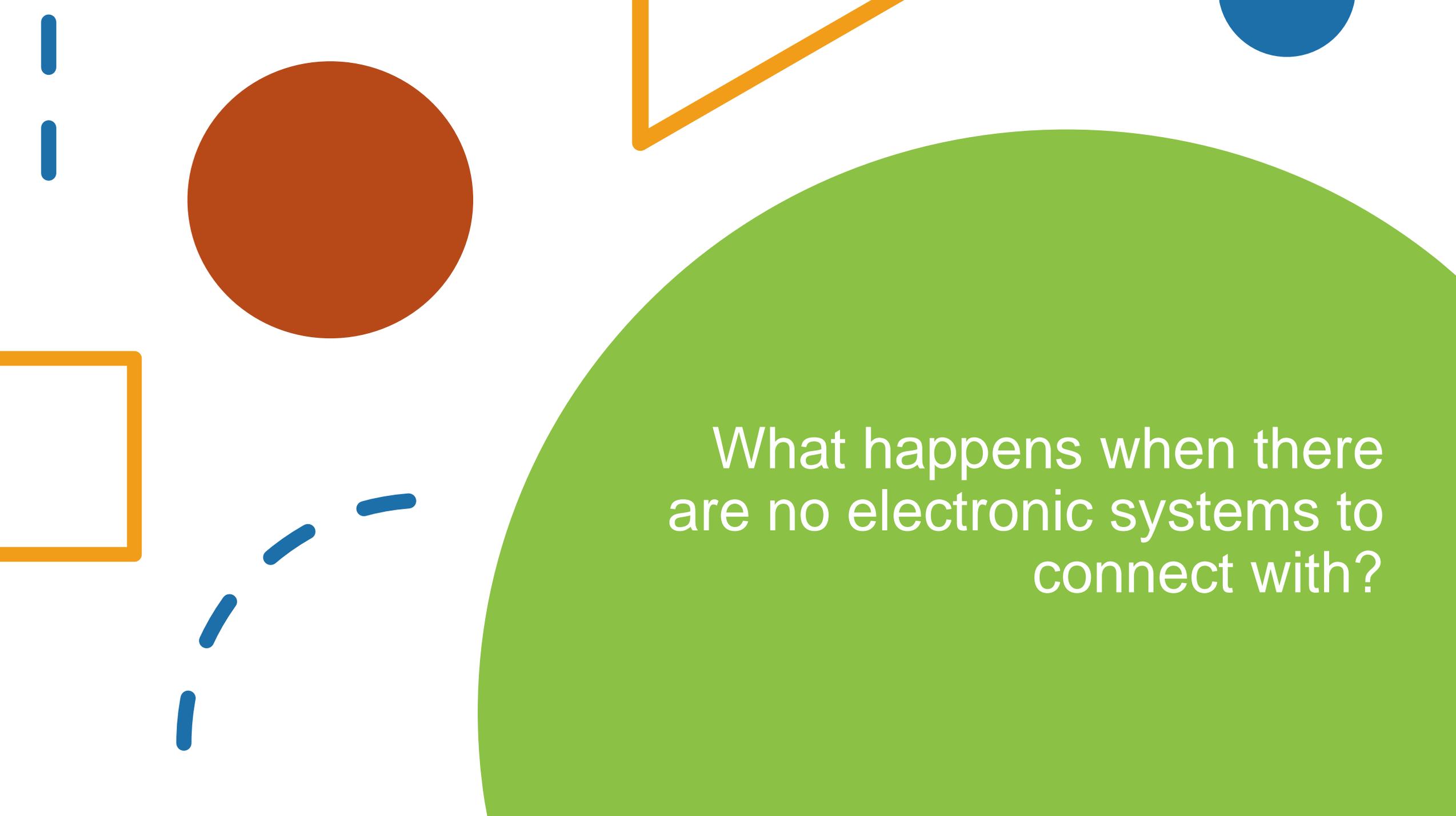
# Case Study: Professional Radiology

Local radiology practice with one radiologist and spouse managing practice.

	Traditional Approach	PHIX Approach
<b>Cost</b>	\$6,000 set-up charged by EHR Additional fees charged by HIE	\$100 set-up charged by PHIX \$600 per year PHIX membership
<b>IT Infrastructure</b>	Outsourced	Informaticist worked with practice to identify options to push/pull data
<b>Data Integration</b>	CCD, FHIR, and/or HL7 v	Custom series of programs to pull radiology reports from practice portal and convert text to HL7
<b>Trust</b>	IT staff at EHR vendor and HIE vendor coordinate	Directly working within practice creates deeper trust



# **Custom Programming to Meet Local Needs**

The image features a white background with several abstract geometric elements. On the left, there are two vertical blue dashed lines, a blue circle, and an orange square outline. In the upper right, there is an orange triangle outline and a blue circle. A large green semi-circle occupies the right side of the frame. The text is centered within this green area.

What happens when there  
are no electronic systems to  
connect with?

# Case Study: Early COVID19 Response

**March 2020**

Department of Public Health Lab was the only laboratory that could do COVID19 testing. Operated completely on paper.

**April 2020**

PHIX developed and implemented an electronic ordering and results system for COVID19 in less than 3 weeks. Positive results pushed to Epidemiologists electronically to begin case investigations.

**Present**

Infrastructure expanded to serve drive-thru testing sites across the region and to work with both local and national labs.

Results sent securely via text and email to patients.

City case investigation and contact tracing systems hosted by PHIX.

Hospital transfers to Alternative Care Site and William Beaumont Army Medical Center facilitated by PHIX.

Developed vaccination system that sends COVID19 vaccinations to the state electronically.

# How did PHIX develop and implement this system in less than three weeks?

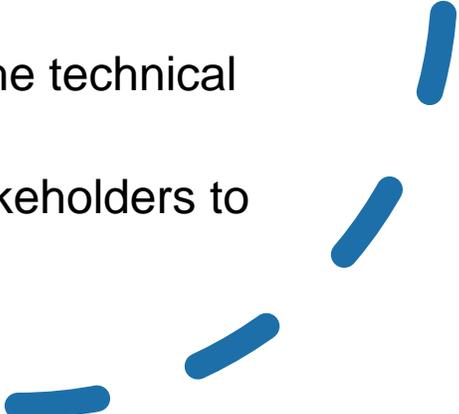
## **Identified challenge early because we were in the room**

- PHIX has a long-standing relationship with the Department of Public Health
- Involved in meetings with hospital leadership and public health in March 2020 related to COVID19
- Issue with lab result communication already apparent before first positive COVID19 case

## **Developed solution scope and discussed with local leaders**

- Internally scoped solution to meet the immediate needs of hospitals and public health
- Sought feedback and support from local leaders

## **Leveraged local programmers and local relationships to implement**

- Local programmers worked quickly to develop the technical solution (less than three weeks)
  - Simultaneously, PHIX led meetings with key stakeholders to prepare and gain buy-in
  - Provided 24/7 support daily
- 

# Key lessons learned during COVID19 response

## Phased approach is key to success

- Hit singles, not home runs

## Work-flow changes are hard

- Leadership at each organization must maintain importance of change
- Leverage relationships to support partners through the change

## Do not make every requested change

- It takes time to adjust work-flows, so don't adjust technology too soon
- Let partners use the technology as designed and take their feedback into consideration over time

## Leadership must be actively involved in custom programming

- Do not hand-off projects to technical experts
- Leadership must be actively involved in development to understand and make key decisions



PHIX has the same focus on relationships and custom programming to address other local issues

## **Relationships and Trust**

- Actively listen to all levels of partner organizations
- Great ideas can come from entry level and front-line administrative staff
- “Customer service” focused approach to every aspect of PHIX’s operations
- 24/7 support available

## **Adaptability and Timeliness**

- Focused on solving local challenges vs. using national solutions to try to fit local problems
- Custom programming enables PHIX to develop and modify technology systems quickly to meet growing and changing needs

# Case Study: Trauma Image Sharing

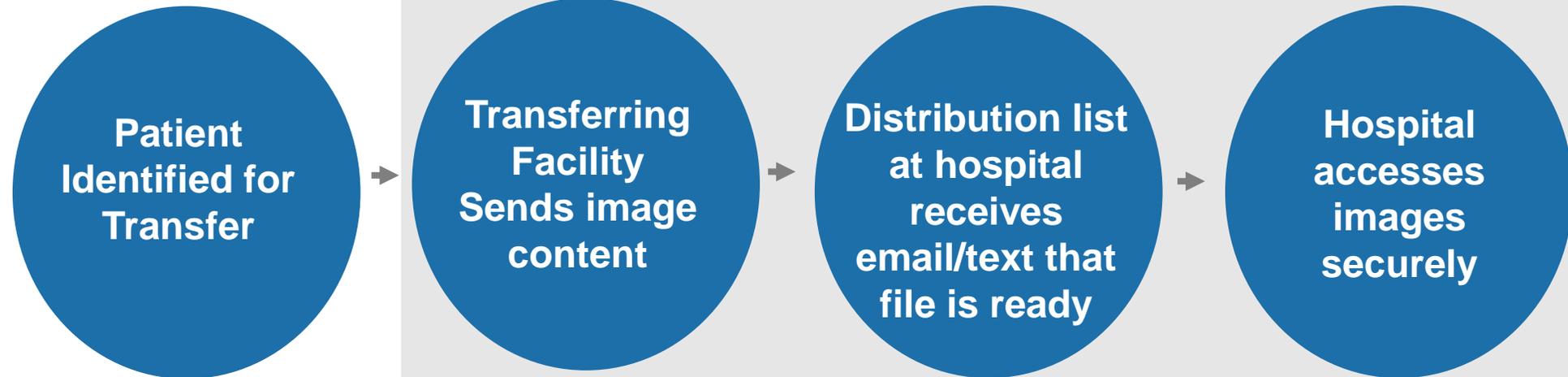
## April 2021

- During a training with trauma surgeons, a surgery resident expressed the desire to have radiology images before or during a trauma transfer to prepare the operating room

## May 2021

- PHIX launched pilot to support trauma image sharing before and/or during transfers

# Case Study: Trauma Image Sharing



Time for referring facility to upload image and for hospital to download the image is approximately 10 minutes.



## **Improve patient care**

- Decreased radiation exposure for patients in our region
- Enabled physicians to be ready to treat the patient

## **Deepen relationships**

- Built trust with current partners, particularly trauma surgeons and Emergency Department physicians
- Supported PHIX's growth efforts with rural hospitals

## **Demonstrate technical abilities**

- Be the organization that the community turns to for help

## **Support Compliance with Standards**

- American College of Surgeons now recommends remote access to radiographic imaging before transfer



**Value:  
Trauma  
Image  
Sharing**

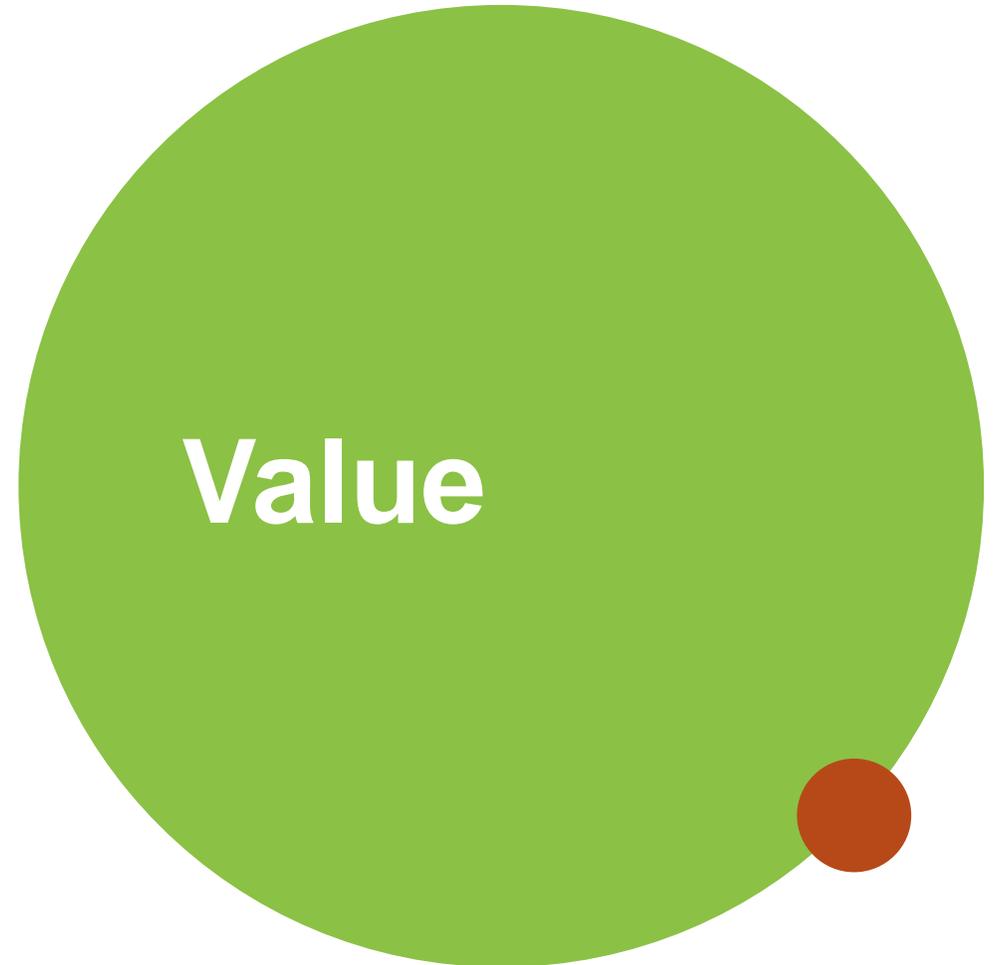


# **Analytic Power of Deep Community Data**



## **Integration strategy supports robust regional databases**

- Robust coverage of different partners (large and small) across the El Paso region
- Detailed clinical data from each partner



# Case Study: COVID19 Data

PHIX did a significant amount of work to support COVID19 responses in the El Paso region.

As a result, PHIX has detailed community-level data related to COVID19.

- Virtually all COVID19 lab orders / results
- Case investigations and contact tracing for all COVID19 positives
- All hospital and emergency department encounters
- Virtually all underlying conditions
- Virtually all COVID19 vaccine registrations and vaccinations

# Case Study: COVID19 Data

PHIX is currently participating in the Centers for Disease Control and Prevention (CDC) VISION Network to evaluate the effectiveness of COVID19 vaccinations to support ongoing recommendations.

Morbidity and Mortality Weekly Report (MMWR)

CDC

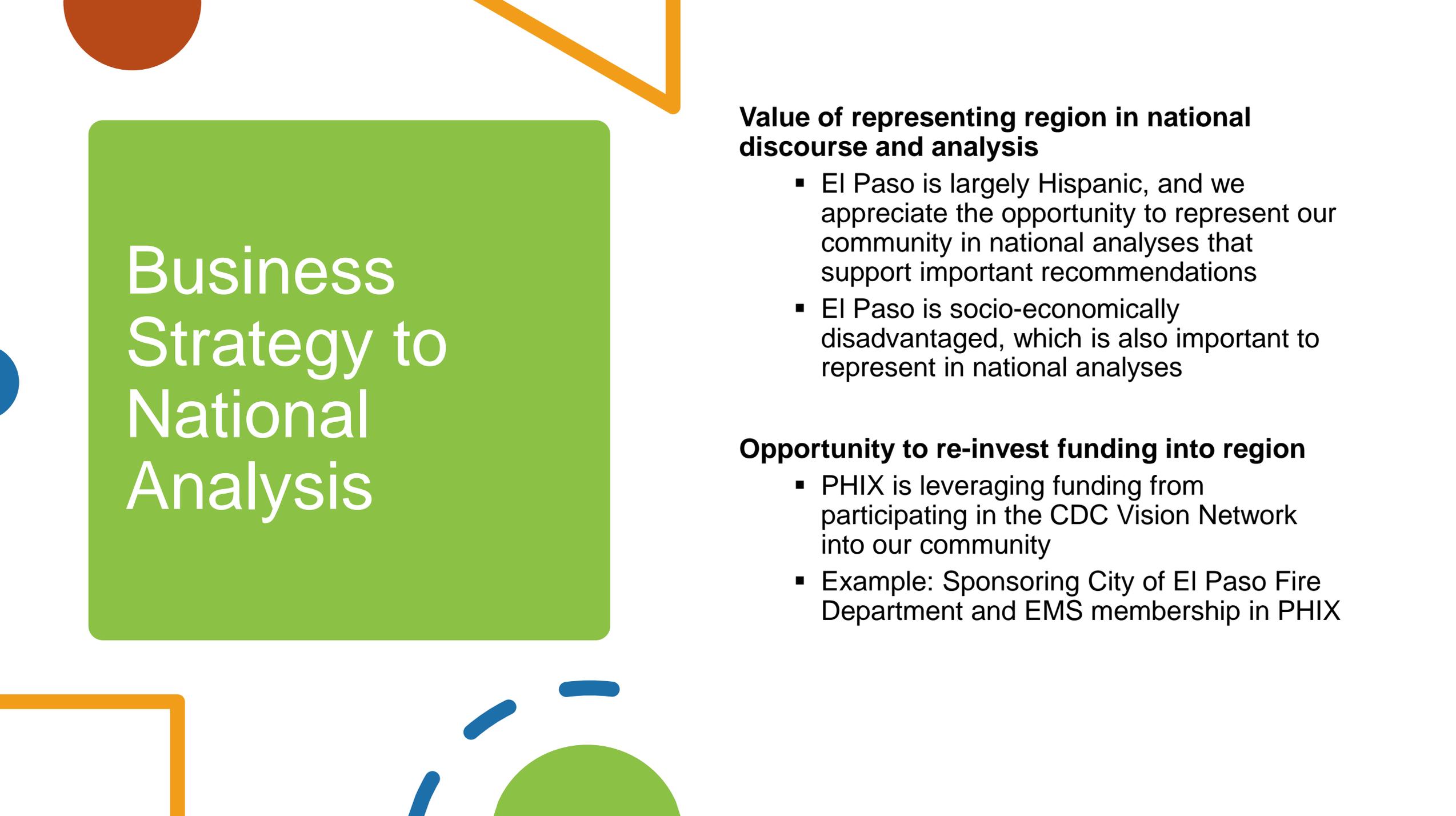


## Effectiveness of 2, 3, and 4 COVID-19 mRNA Vaccine Doses Among Immunocompetent Adults During Periods when SARS-CoV-2 Omicron BA.1 and BA.2/BA.2.12.1 Sublineages Predominated — VISION Network, 10 States, December 2021–June 2022

Weekly / July 22, 2022 / 71(29);931–939

On July 15, 2022, this report was posted online as an MMWR Early Release.

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# Business Strategy to National Analysis

## **Value of representing region in national discourse and analysis**

- El Paso is largely Hispanic, and we appreciate the opportunity to represent our community in national analyses that support important recommendations
- El Paso is socio-economically disadvantaged, which is also important to represent in national analyses

## **Opportunity to re-invest funding into region**

- PHIX is leveraging funding from participating in the CDC Vision Network into our community
- Example: Sponsoring City of El Paso Fire Department and EMS membership in PHIX

# Case Study: Diabetes Data Workgroup

**October 2020**

- With support from the Paso del Norte Health Foundation, PHIX started Diabetes Data Workgroup to use data to support diabetes prevention and management



**PASO DEL NORTE  
HEALTH FOUNDATION**

**Present**

- Leading discussions on how to support the region with diabetes-related data

**Population Health**

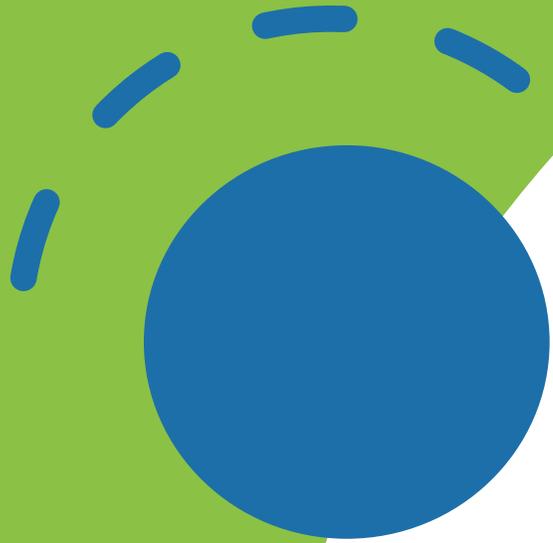
What community level analyses would support program and policy development?

**Support a Learning Health System**

How can we identify success stories and learn from the treating clinicians?

**Support Direct Clinical Care**

What additional data would benefit clinicians at point of care?



# **Impact on Health Equity**

# Support Health Equity

## Community representation

- Focus on integrating data from all types of organizations
  - Example: Data integration strategy enables small practices and social service providers to join PHIX's network of partners.
- Represent region at a national level
  - Example: Participation in CDC's VISION Network to analyze COVID19 vaccine effectiveness.

# Support Health Equity

## Address local challenges

- Health care is local – build solutions that work for our region
  - Example: Developed and adapted COVID19 lab ordering and results system to adapt to region's changing needs.
- Leverage local programmers to ensure that solutions meet our region's needs
  - Example: Trauma image sharing systems ensures that hospitals, particularly rural hospitals, can more safely transfer their patients to a trauma hospital.



# Questions

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