

Preventing The Surge: Community Collaboration and H5N1

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HHSA
Public Health



Accredited 2020

Presenter

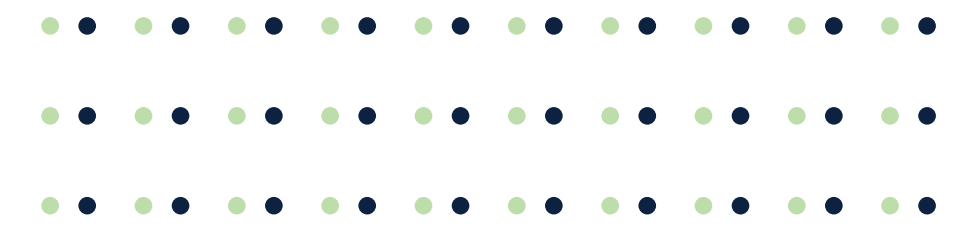


Sean Roberts **Emergency Services Specialist II** **Tulare County Public Health**

Sean has been an Emergency Services Specialist for Tulare County Public Health since 2022, after a 20-year career in EMS. He has served multiple roles across different emergency responses, including overseeing a mobile vaccination unit during COVID-19, coordinating the evacuation of a SNF and medical evacuations during a 100-year flood event, and most recently, as the Logistics Section Chief of the Tulare County Public Health Department Operations Center during the H5N1 response. He also serves as a MHOAC duty officer, his agency's ICS instructor, and coordinates the Tulare County Health Emergency Committee which is part of the Central California Healthcare Coalition.

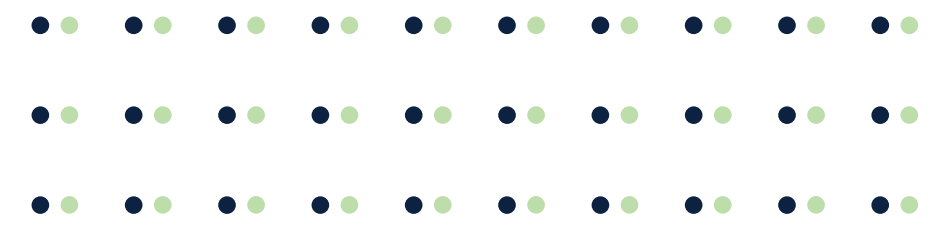
Disclosure of Relevant Financial Relationships

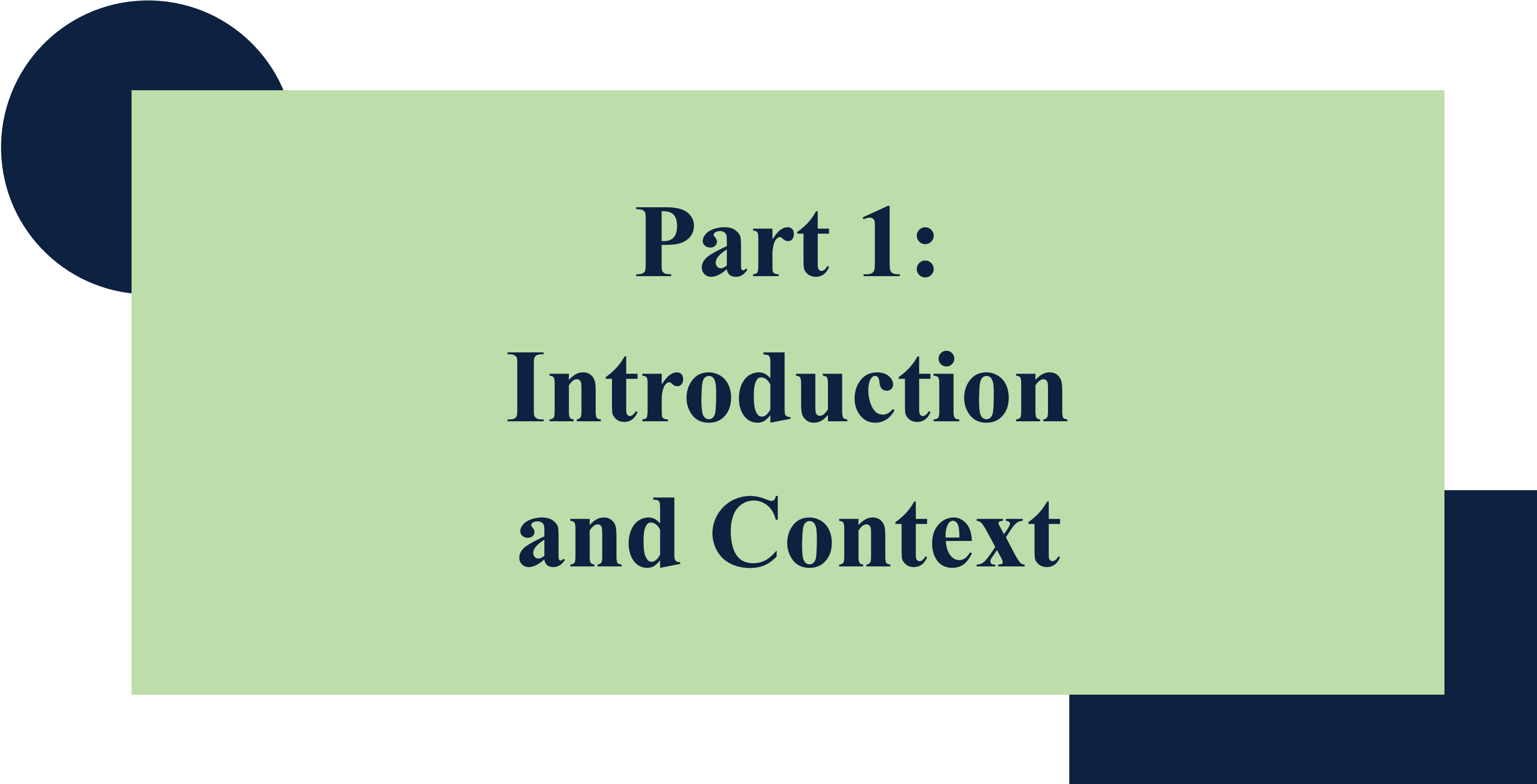
Sean Roberts reports no relevant financial relationships or relationships he has with ineligible companies of any amount during the past 24 months.



- 01. Introduction and Context**
- 02. The Tulare County H5N1 Response**
- 03. Practical Applications for Future Responses**

**AGENDA/
OBJECTIVE**





Part 1:
Introduction
and Context

“There have been as many plagues as wars in history; yet always plagues and wars take people equally by surprise.”

Albert Camus – The Plague

Disclaimer

While fortunately, to date, all California H5N1 cases have been mild, this describes the initial steps taken in an outbreak response by a County Public Health Department and partner organizations when a limited amount was known about H5N1 spillover from cattle, including the virulence, the pathogenicity, and the means of spread, and therefore, had to be treated as an emerging infectious disease.

Previous Hospital Surges



- **2009-2010: “Swine Flu” H1N1**
- **Higher than normal seasonal influenza (2017-2018)**
- **2020 and Beyond: COVID-19**
- **2022 Tripledemic**

What Did Those Surges Teach Us?

- **Most patients presenting to the ED were of low acuity.**
 - **However, what constitutes an emergency to health care personnel is different than the public.**
- **We must think of not just the acuity of our patients but also their emotional needs.**
- **Many people were simply seeking testing, and reassurance, even when the only treatment was supportive care.**
 - **However, people are scared and want answers!**
- **Most patients could have been treated in an outpatient setting.**
 - **However, many clinics, doctor's offices, etc. have no point of care testing.**
 - **It does no good to say "call your primary care provider" when they cannot see you or treat you.**
 - **Many people do not have sick time to take a day off to see their doctor; the ER is a 24/7 operation.**

What Else Did Those Surges Teach Us?

History will always repeat itself!



**Part 2: The Tulare
County H5N1
Response**

Background on Tulare County

- **Located in the Southern San Joaquin Valley**
- **We have a lot of cows!**
- **Top dairy producing county in the nation**
- **Over 200 dairies (300 if you count Kings County which Tulare County inspects/regulates)**
- **Population 477,000**
 - **8 incorporated cities**
 - **Over 40 unincorporated communities ranging in population from under 500 to over 15,000.**
- **Area 4,873 Square Miles**
- **Estimated over 4,000 dairy workers**

Health Care in Tulare County

- **3 Acute Care Hospitals located in the 3 largest cities**
 - **Kaweah Health (Level 3 Trauma Center, STEMI Center)**
 - **Sierra View Medical Center**
 - **Adventist Health Tulare**
- **Urgent Care only located in the 3 largest cities**
- **No chain pharmacies outside the incorporated cities.**
- **Federally Qualified Healthcare Centers and Rural Health Centers located in some of the larger unincorporated areas**
- **Most of the smallest unincorporated communities are complete health care deserts**

Timeline of H5N1

March 2024: First Cattle Cases in Midwest

July/August 2024: Local Preparedness Efforts Increase

August 2024: First Cattle Cases in California

October 2024: First 2 Human Cases in Tulare County

December 2024: Most Recent Confirmed Human Cases

Tulare County's 3 Step Proactive Approach

Step 1: Education and Preparation

Targeted Bilingual worker & employer outreach

H5N1 Tabletop Exercise with 85 participants from health care, government, and industry

Step 2: Worker Protection

1.8 Million Pieces of PPE Distributed

Stockpiling of additional PPE and specialized PPE

Step 3: Readily Available Testing and Treatment

Testing available for all who qualify

In house testing at Tulare County Public Health Lab

Why We Chose this Approach

- **Education provided about H5N1 so people could recognize symptoms and how to contact public health rather than presenting to medical facilities unannounced.**
- **Education in the proper use of PPE so workers knew how to protect themselves.**
- **Tabletop exercise with 85 local, state, and federal participants to practice coordination and communication.**
- **Massive quantities of PPE distributed to prevent the spread between cattle and workers as sick cattle still need to be cared for. Points of distribution were utilized to distribute 1.8 million pieces of PPE to over 200 facilities.**
- **Based on other states, testing demand was expected to be minimal and not a burden on the health care system.**

The Initial Referral Process

Patient or employer calls Public Health upon experiencing symptoms.

Public Health Nurse evaluates and makes referral to ER if testing is needed. ER notified by PHN.

ER evaluates and tests and possibly prescribes Tamiflu to the patient. Samples sent to public health lab via courier.

Public Health Lab runs the sample same day and gives results.

Differences from COVID Testing

- **Unlike the early stages of COVID, there was a recognized treatment and post exposure prophylaxis making timely evaluation essential.**
 - **Oseltamivir (Tamiflu) was recognized as a treatment for H5N1.**
 - **Oseltamivir had an expanded use authorization allowing prescribing prior to test results.**
 - **It was also used as post exposure prophylaxis for close household contacts.**
- **Swabs had to include conjunctival swabs which requires more training and education.**
 - **Hospitals were the most likely to have all required supplies.**
- **Demand was not expected to be high as there was no indication of human-to-human transmission.**

Late August 2024: Preparation Efforts Put to the Test

- **Multiple dairies became positive for H5N1 in a short period of time.**
- **Initially, there were no symptomatic workers or employers calling public health.**
- **When it rains, it pours! We then received 3 referrals in the same day for testing.**
- **Public Health Nursing followed the established policies.**

The Initial Referral Process: What Went Wrong?

- **One patient forgot to tell the triage nurse they were referred for H5N1 testing for over an hour and was not isolated.**
- **One patient was initially told not to enter the building (this was corrected ASAP).**
- **They presented to two EDs who both had several things in common:**
 - **Holding multiple patients, including ICU admits.**
 - **Packed waiting rooms.**
 - **No isolation or private rooms available.**
- **Due to a lack of knowledge on the expanded use authorization for Tamiflu, it was not offered.**

But Wait There's More

- **Confusion about specimen collection**
 - **Conjunctival swabs were not collected for one patient.**
- **In the end, all 3 patients were tested; fortunately, 2 of the 3 were negative.**
- **A meeting was held, and it immediately became apparent a new process had to be worked out.**
- **It also became apparent demand was going to be greater than anticipated and the current process would not work.**

Asking for Help

- **Meetings were rapidly arranged by Public Health with all sectors of the health care system**
 - **Hospitals**
 - **Hospital affiliated GME clinics and urgent care clinics**
 - **Federally Qualified Healthcare Centers**
 - **Rural Health Centers**
 - **Occupational Health Providers**
- **They were as much a listening session and brainstorming session as anything.**
- **All parties wanted to help; but identified barriers to helping.**
- **3 options were brought up, all with unique sets of barriers.**
 - **Continue Hospital Testing**
 - **Develop a way to perform outpatient testing**
 - **Drive through testing at public health**

Barriers to Testing at Hospitals

- **Infection prevention concerns with crowded ED and waiting rooms**
- **Concern about room turnover after the patient leaves**
- **Numerous staff across multiple shifts who may be unfamiliar with processes**
- **These are low acuity patients who can't be seen immediately**
- **EMTALA does not allow for making people wait in their car, etc.**
- **Lack of time for education and aftercare instructions, especially when it comes to protecting others**

Barriers to Testing at Outpatient Facilities

- **Lack of specimen collection kits with the proper transport medium**
- **Confusion about exactly when and how to collect specimens**
- **Lack of PPE**
- **Process confusion if an uninsured or non established patient needed evaluation**
- **Infection control concerns**

Barriers to Testing at Public Health

- **Lack of clinic space**
- **Drive through model precludes conjunctival swabs**
- **This would be testing only with referral to a provider if necessary**
- **Because Tamiflu is most effective when started within 48 hours, a delay in provider evaluation is a major issue**
- **Lack of time for education and aftercare instructions**
- **Difficulty of follow up if specimen is positive and patient does not have an established medical provider**

Conclusions from the Meetings

- **Hospitals had the greatest number of structural barriers.**
 - **We can not ask them to go outside their established triage system.**
 - **We cannot decrease their patient volume.**
 - **We can not create isolation rooms instantly.**
 - **We can not decrease the number of potential exposures in the waiting room.**
 - **The sheer number of physicians, mid level providers, RNs, and other staff on each shift made education difficult and uniform testing procedures impossible.**
 - **EMTALA always applies.**
- **Clinics presented with barriers that could be overcome with collaboration.**
- **A drive through model was not feasible due to needed provider evaluations.**
- **However, we needed a solution, otherwise people would self-refer to the ER.**

The Solution: Divert Patients

- **The decision was made to make every attempt to divert anyone needing testing away from the ER and to an outpatient location.**
- **Additional targeted information was pushed out rapidly via employers and trusted community messengers urging anyone needing testing to call public health.**
- **The system had to be efficient, convenient, and streamlined. If we took too long, people would self-refer to the ER.**
- **Public health nursing was available 7 days a week for referrals.**
- **A network of clinics was set up providing 7 day a week testing availability.**

The Updated Referral Process

Patient or employer calls Public Health upon experiencing symptoms.

Public Health nurse evaluates and makes referral to most appropriate outpatient clinic for the patient.

Clinic evaluates and tests and immediately provides Tamiflu to the patient under the Expanded Use Authorization.

Public Health Lab coordinates getting the samples and runs the sample same day and gives results.

What Public Health Provided

- **PPE at no cost to the testing sites**
 - **Gowns, N95s, Face Shields, Gloves**
- **Specimen collection materials provided at no cost in a self-contained kit**
- **Laminated instructions were provided at no cost**
 - **Collection instructions for staff**
 - **Expanded Use Authorization of Tamiflu for providers**
- **Public Health Nursing and Public Health Microbiologist consult 7 days a week**
- **Rapid turnaround times 7 days a week for sample results from the Tulare County Public Health Lab, generally same day**
- **The process and materials provided were universal for all facilities, reducing confusion**

What the Clinics Provided

- **Staff to collect the specimens**
- **A physician or mid level provider to evaluate the patient and prescribe medication**
- **Ancillary staff able to provide aftercare instructions**
- **County provided PPE to the patients such as N95s to assist in protecting their families if home isolation was difficult**
- **A mechanism to see non established patients and accept private insurance, Medi-Cal, or a sliding scale payment if necessary**
- **County provided Tamiflu obtained from the strategic national stockpile if their license allowed them to provide medications**

Bringing the Cost Down for Everyone

- **County provided materials for testing and worker protection reduced the cost to the clinics.**
- **The County Public Health Lab did not charge for testing, so no test fees were passed down to the patient.**
- **Where applicable, the Tamiflu from the strategic national stockpile was provided at no cost to the patient.**
- **The result was minimal cost to the clinic to provide the service and minimal to no cost to the patient.**
- **This was essentially a low cost “test to treat” model.**

The Final Result: Testing Sites

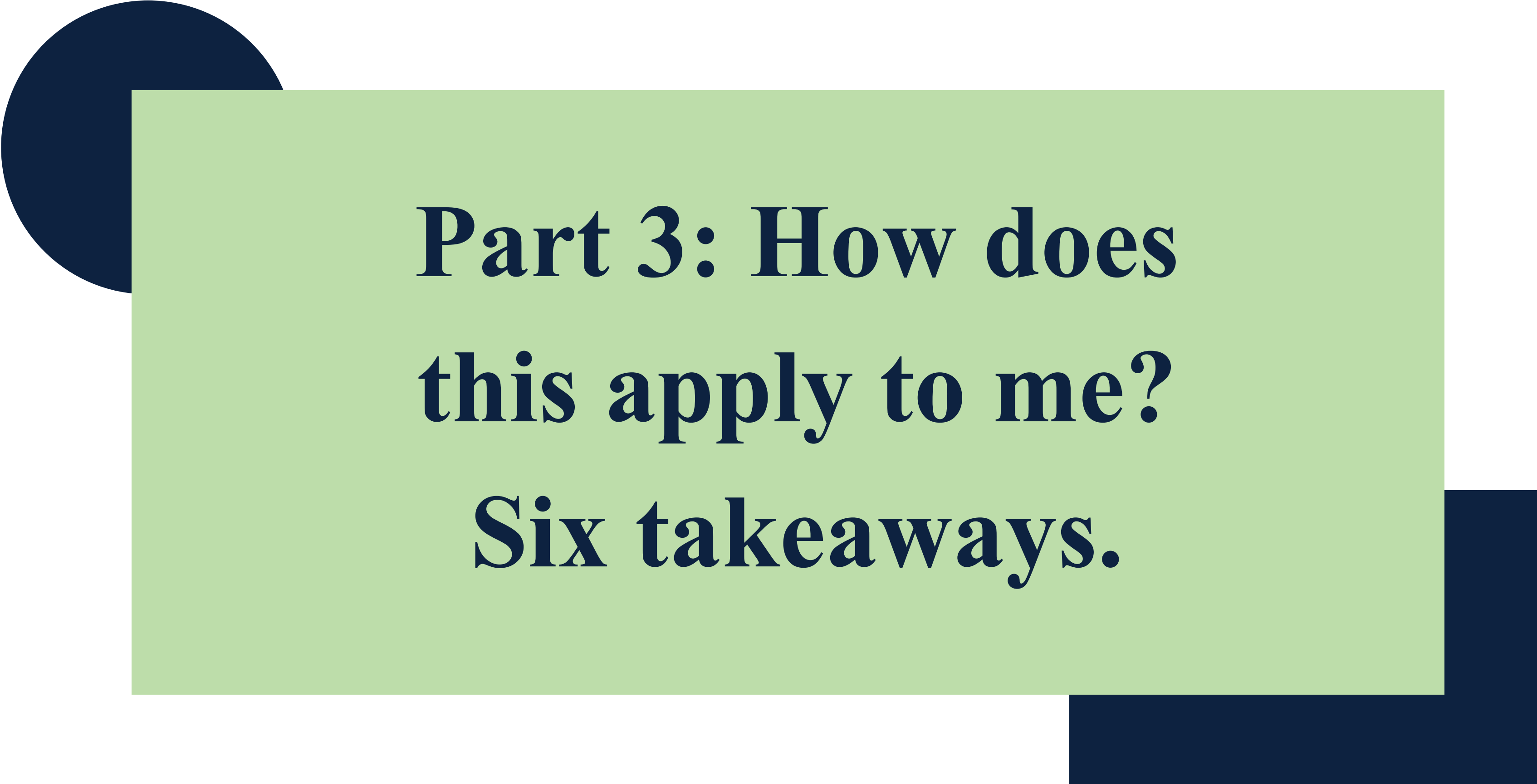
- **A total of 17 outpatient testing sites were established.**
- **Patients could be referred based on convenience to them and lowest cost to them.**
- **A wide variety of outpatient facilities participated giving patients options.**
 - **Federally Qualified Healthcare Centers**
 - **Rural Health Centers**
 - **Graduate Medical Education Outpatient Clinic**
 - **Urgent Care Centers**
 - **Occupational Health Centers**
 - **Community College Student Health Center**
- **Most patient had to travel fewer than 15 minutes for testing.**

The Final Result: Testing Sites

- **Over 125 symptomatic people were tested. (17 total human cases identified)**
- **Less than 50% of the total testing capacity was used.**
- **No patients presented to the ER for testing after this system was established.**
- **All patients were evaluated for antivirals, and in many cases, their families received prophylaxis.**

Data to Support the Success

- **Over 1,900 residual flu swabs sequenced by Tulare County Public Health Lab with NO positive H5 results.**
 - **Not just inpatient swabs, but swabs from urgent care centers and clinics.**
- **No H5N1 detected with a CDC H5N1 testing pilot program established later in the county.**
- **No patients who met testing criteria were turned away.**



**Part 3: How does
this apply to me?
Six takeaways.**

It Will Happen Again.

- **We need to prepare today for the emerging infectious disease of tomorrow!**
- **We are not guaranteed a long period in between any disaster. Diseases are no different!**
 - **Ridgecrest Earthquakes 2020**
 - **Cordell Kansas got struck by a tornado May 20, 1916, 1917, and 1918.**
 - **In 2004, the same region of Florida got stuck by 3 hurricanes in 2 months.**
- **The only questions are: Where it will be and how fast will it move?**
- **The time for preparation is now!**

We Really are All in This Together!

- **Our success depends on our ability to work together as a team.**
- **No organization is too small to help!**
 - **A small rural clinic handled the majority of the early testing while others onboarded.**
- **A one size fits all approach does not work!**
 - **Leverage individual strengths!**
- **The more organizations onboard, the more options patients have.**
- **Let each organization leverage their individual strengths! They know their community!**

Build Relationships Now!

- **We need to get outside the 4 walls of our organizations.**
- **Building relationships takes time and effort but is indispensable in an emergency.**
- **In-person meetings are essential! Get out and shake some hands!**
- **Take time to understand what your community partners do and what they have to offer.**
- **Some clinics did not truly understand the barriers to hospital testing until the meetings.**

Everyone Needs a Seat at the Table

- **Public Health Emergency Preparedness and Response Staff**
- **FQHC and other clinic management**
- **Public health laboratory staff**
- **Hospital affiliated clinics**
- **Develop processes ahead of time!**
- **Attend trainings and exercises**
- **Attend health care coalition and other community meetings!**
 - **All participating facilities were active members of the Tulare County Health Emergency Committee**

It is Up to Us to Break Down Barriers.

- **People want to help!**
- **Listen!**
- **Take immediate action!**
- **True health equity is achieved only through a comprehensive effort to break down barriers!**
- **This requires old fashioned hard work but will be worth it in the end!**

These Concepts Work in All Areas.

- **Health care deserts are just as common in urban areas.**
- **Trusted community messengers are just as important in urban areas.**
- **Every area has people uniquely vulnerable to any disease, and we must meet them where they are.**
- **Every area has people who lack access to care.**

Questions?

THANK YOU!

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