

# Evaluating Community-based Vaccine Initiatives with Power BI

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# Acknowledgements

These projects were in collaboration with the AAP Immunization team



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# Learning Objectives

1. Describe community impact of customizable vaccination strategies
2. Illustrate the utility of Power BI as a centralizing visualization tool
3. Discuss considerations for immunization information systems to support evaluation of community-based immunization programs

# Background and Methods



# Current State on Childhood Immunization



Decreased vaccine  
confidence



Decreased  
pediatric rates



Significant  
disparities between  
communities



## Immunization Partnership Grants

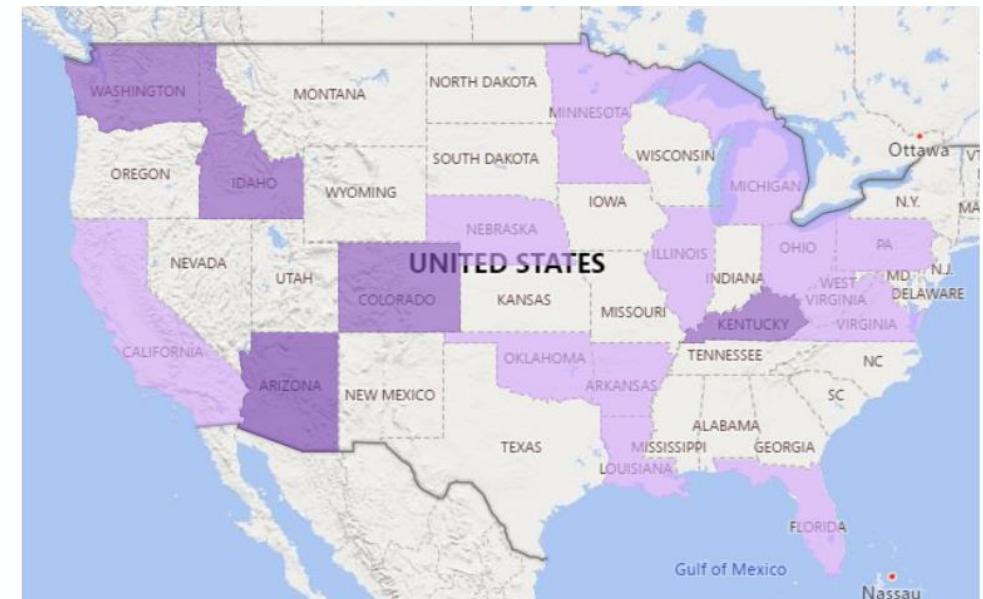
1. Address social determinants
2. Reduce health disparities
3. Organizations most capable to impact communities

- Grants awarded to 23 organizations to implement community-based vaccine initiatives across 3 grant programs
  - HPV/Flu
  - Routine Immunizations
  - COVID-19/RSV/Flu
- February 2023 – February 2024

# Communities Served

Each grant focused on reducing community disparities

- AAP chapter and local organizations prioritizing rural, under-resourced, historically hesitant communities, or children < 5
  - 32% children < 5
  - 61% rural
  - 100% under-resourced
- Community Languages Spoken:
  - English, Spanish, Russian, Ukrainian, Vietnamese, Marshallese, Creole, Arabic, Burmese, Somali, Navajo, and other Native American languages



# Strategies Implemented

Customized by Community Needs



Community  
Partnerships



Vaccination  
Events\*



Social Media  
Campaigns



Promotional  
Materials

*\*Grant funds did not cover vaccine product or administration; vaccines administered were outcomes of events held*



# Mixed Methods Evaluation

## Data Collection Plan

- Mid and final-project reports through SurveyMonkey (n=72).
- Metrics include vaccinations administered, partnerships, social media analytics, and promotional materials distributed.
- Level of agreement that funding increased opportunities to 1) improve vaccine confidence, 2) improve vaccination uptake, and 3) support pediatricians in delivering on-time vaccinations.
- Outcome and impact evaluation, centralized and visualized in Power BI

# Outcomes and Impact



# Promotion and Reach

**212**

Events held

**18k+**

Participants  
trained

**10k**

Materials  
distributed\*

**1,883**

Vaccines  
administered

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**618**

Social media  
posts

**2m+**

Social Media  
Reach

**166**

Materials  
created\*

**1.1m+**

Promotions  
distributed

*\*culturally and linguistically appropriate for each community*



# Reported Knowledge and Confidence

**95%**

better able to support  
pediatricians in delivering on-  
time vaccinations to children

**95%**

improvement in  
vaccination uptake within  
their communities

**98%**

improved confidence in  
vaccines for rural and under-  
resourced communities

**100%**

increased engagement  
with organizations and  
physicians in the state

# Power BI Centralization



# Power BI Centralization and Visualization

- SurveyMonkey data transformed to combine multiple data sources in Power BI
- Measures created to calculate metrics
- Dashboard constructed at high-level with ability to drill down by grant and organization, including drill-throughs and tooltips

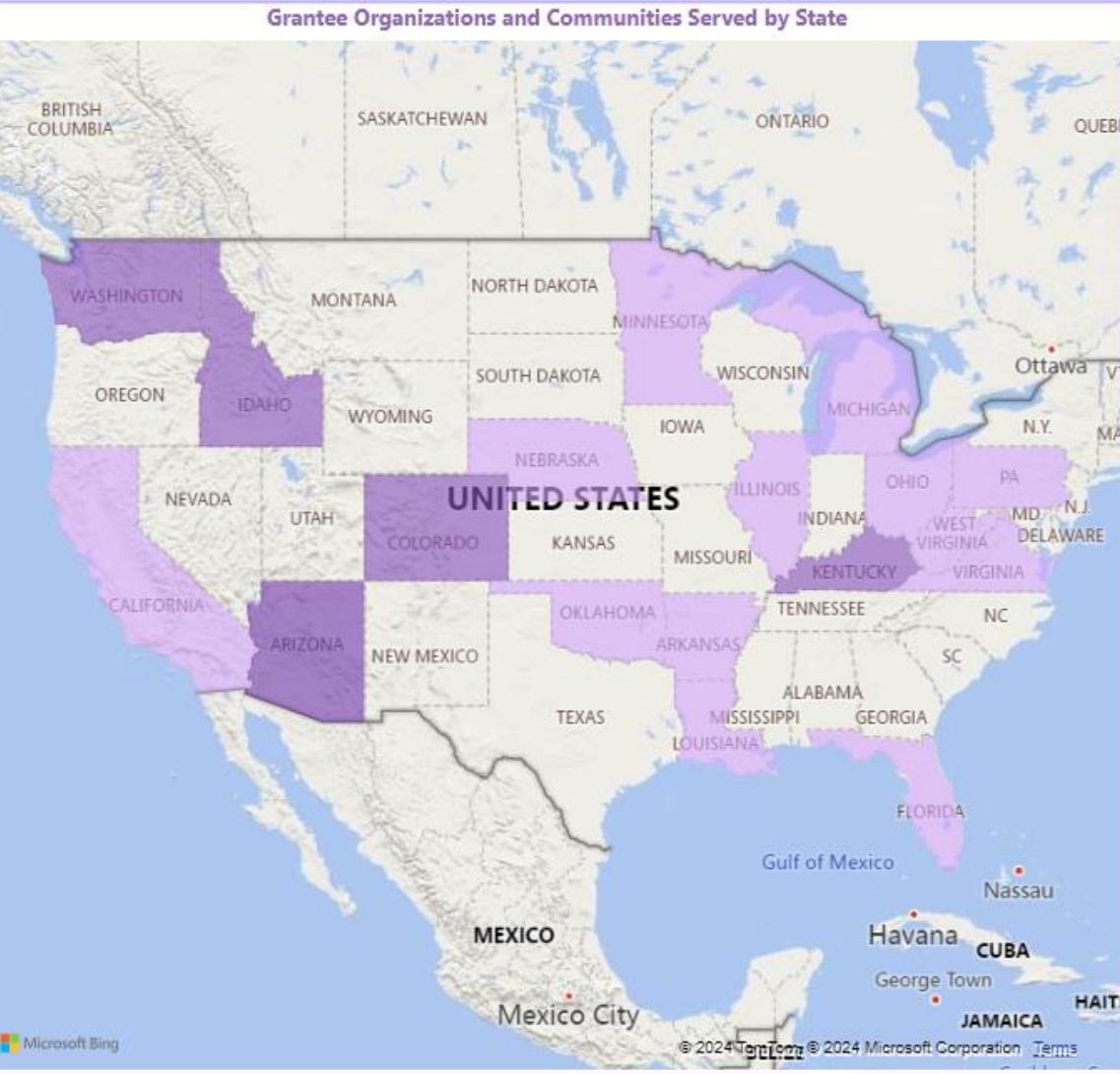
## Dashboard Features

Dynamic and interactive with  
grantee data, shared through a  
Collaborate Site

## Visualizations

- Information with screen share of instructions
- Filter by funding stream
- Organization locations and communities served  
visualized in a map visual
- Tooltips of events held, social media posts, and  
materials distributed
- Drill through to Chapter Immunization  
Representative and detailed grantee activities
- Grantee outcome ratings, perceptions, and metrics

# Immunization Partnership Grantee Activities



23

Orgs Funded

28

Total Grants

212

Events Held

## Immunization Grants

COVID IZ Partnership Funds

COVID Pilot Projects

HPV & Flu Partnership Funds

Immunization Partnership Grants (IPG)

1,883

Vaccines

618

Social Posts

1M

Materials Dis.

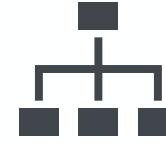
Organization Name	State	Total CIRs
Arizona Chapter AAP	Arizona	1
Arkansas Chapter AAP	Arkansas	1
Autism Society of America	Louisiana	1
Branches of Zion Community Development Center, Inc.	California	2
C-ASSIST	Michigan	1
Creek Valley Health Clinic	Arizona	1
Fisher-Titus Medical Center	Ohio	1
Florida Chapter AAP	Florida	1
Illinois Chapter AAP	Illinois	1
Immunize Colorado	Colorado	1
Karen Society	Nebraska	1
Kentucky Rural Health Association (KRHA)	Kentucky	1
Mariposa Community Health Center (MCHC)	Arizona	1
Oklahoma Chapter AAP	Oklahoma	1
San Juan Basin County Health Department	Colorado	1
University of Pennsylvania Center for Public Health	Pennsylvania	1
<b>Total</b>		<b>45</b>

# Centralized Dashboard Benefits

Power BI



Consistent data accessibility and sharing



Hierarchical data filtering



Centralized analytics across data sources



Customizable interfaces for audiences



Drill through and tooltip features



Increase knowledge of impact

# Data Needs and Recommendations



# Data Disaggregation and Accessibility

For analysis to take place, we need:

- Disaggregated data
  - Demographics (zip code, county, age, geography, race, ethnicity, language)
  - Outcome data (immunizations administered and respective gaps)
- Accessible data for measurement

# Evaluation Wish List

## Immunization Information Systems

- Geographic data to highlight community needs
- Standardized and centralized jurisdictional immunization data
- Quantitative community intervention outcome and impact data
- Disaggregated local and community-specific immunization data
- Communication and integration of data systems between clinics and across state lines

# Data Visualizations and Dashboards Impact

- Data visualizations and dashboards with de-identified data to help program staff:
  - Apply for funding
  - Prioritize community needs
  - Understand accurate vaccination rates
  - Understand gaps and disparities
- Understand which communities and demographic intersections have the lowest immunization rates and **evaluate if the interventions make a difference.**

# Thank you!

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