

Evaluating Community-based Vaccine Initiatives with Power BI

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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



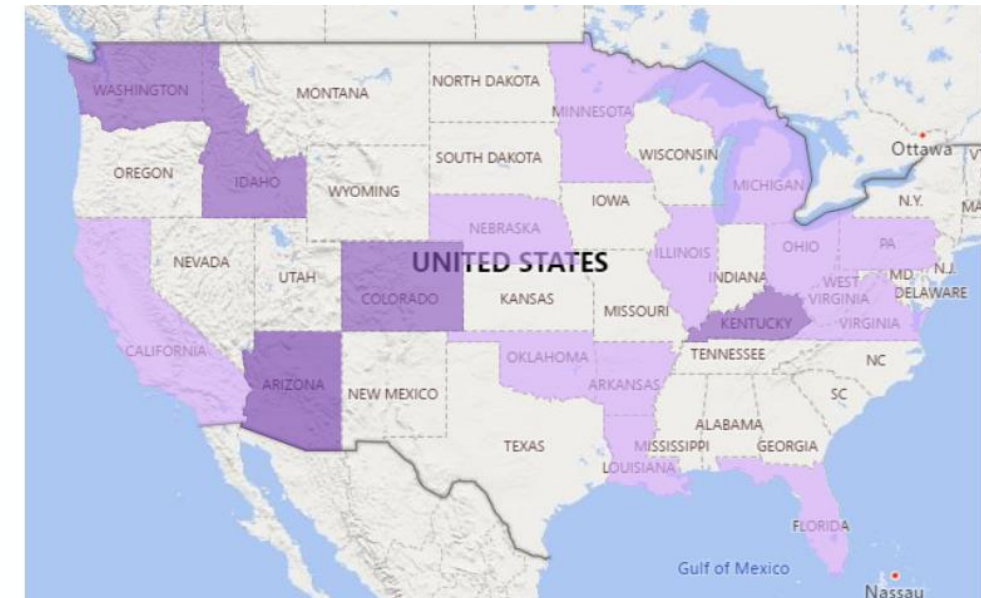
Immunization Partnership Grants

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

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

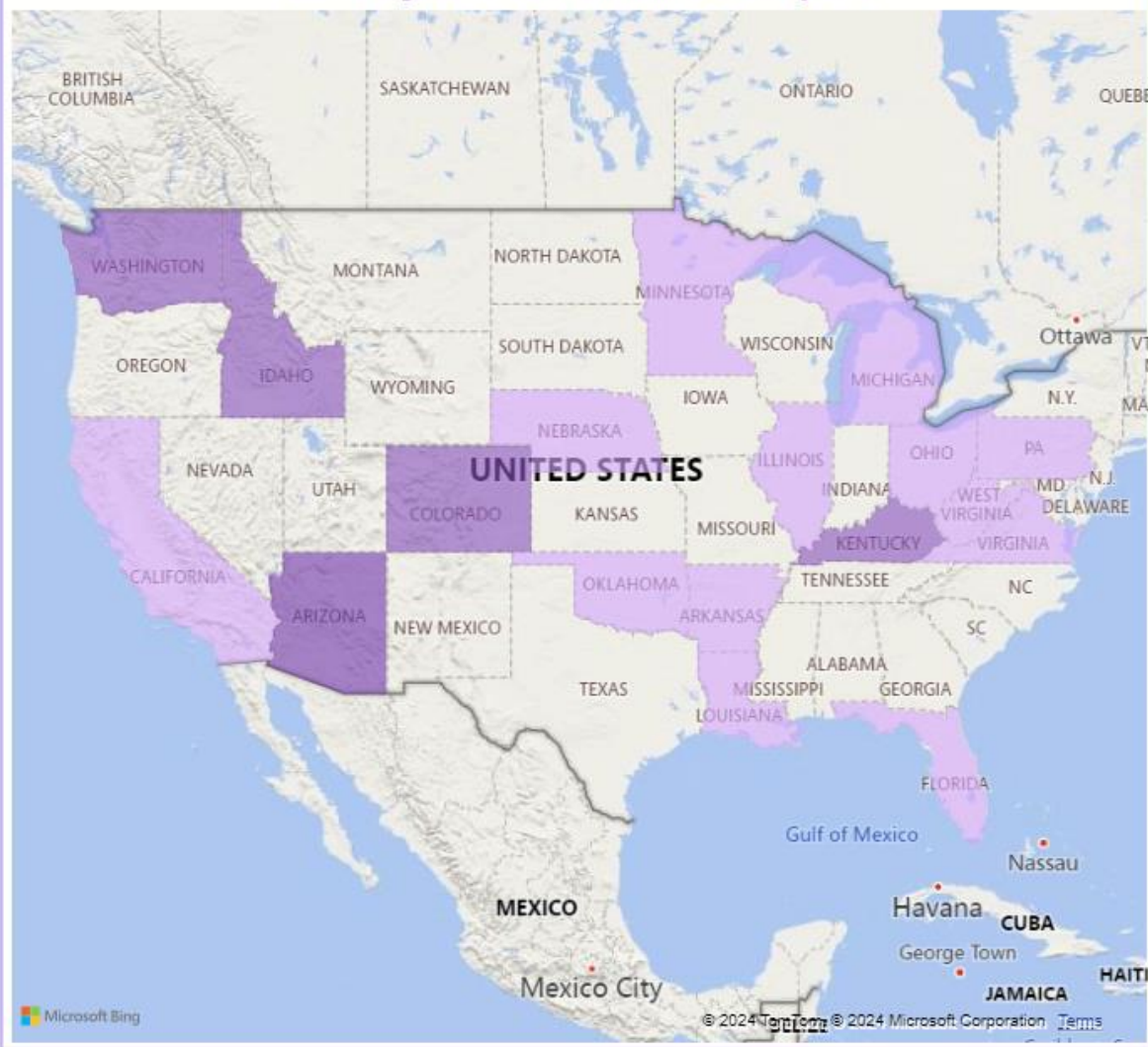
Visualizations

- 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

Grantee Organizations and Communities Served by State



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)

140

Partnerships Formed

53

Strategies Dev.

1,883

Vaccines

618

Social Posts

1M

Materials Dis.

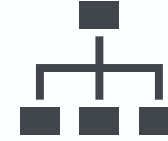
Organization Name	State	Total CIRs
Arizona Chapter AAP	Arizona	1
Arkansas Chapter AAP	Arkansas	1
Autism Society of America	Louisiana	1
Branches of Zion Community Development Center, Inc.	California	2
C-ASSIST	Michigan	1
Creek Valley Health Clinic	Arizona	1
Fisher-Titus Medical Center	Ohio	1
Florida Chapter 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
Total		45

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!

