

Local Public Health: An Integral Partner for Increasing Vaccine Confidence



Vaccines remain the best defense against infectious diseases and play a vital role in protecting the health of individuals and the communities in which they live. Due to the development of safe and effective vaccines, immunization is one of the most successful and safest public health measures available to populations worldwide, with an unparalleled record of disease reduction and prevention. In the United States, relatively high immunization rates for many recommended vaccines have led to the near elimination of several vaccine-preventable diseases and significant reductions in mortality. Our nation's robust, scientifically-based vaccine safety system carefully studies, evaluates, and monitors vaccine safety and efficacy. Despite the success and strong safety record of vaccines, vaccine hesitancy continues to pose a significant public health threat by producing an environment where vaccine-preventable diseases can spread quickly from person-to-person among under-/un-immunized individuals and communities.



What is Vaccine Confidence?

Vaccine confidence is defined as the trust that parents, patients, or providers have in recommended vaccines; providers who administer vaccines; and processes and policies that lead to vaccine development, licensure, manufacturing, and recommendations for use.¹ In contrast to vaccine confidence, vaccine hesitancy is defined as the delay in acceptance or refusal of vaccines despite availability of vaccination services.²

Vaccine confidence is a complex concept largely dictated by an individual's personal experiences, attitudes and beliefs towards vaccines and potential risks, trust and confidence in their healthcare professional, sources for health information, and many other potential confounding factors. Vaccine hesitancy occurs on a continuum ranging from

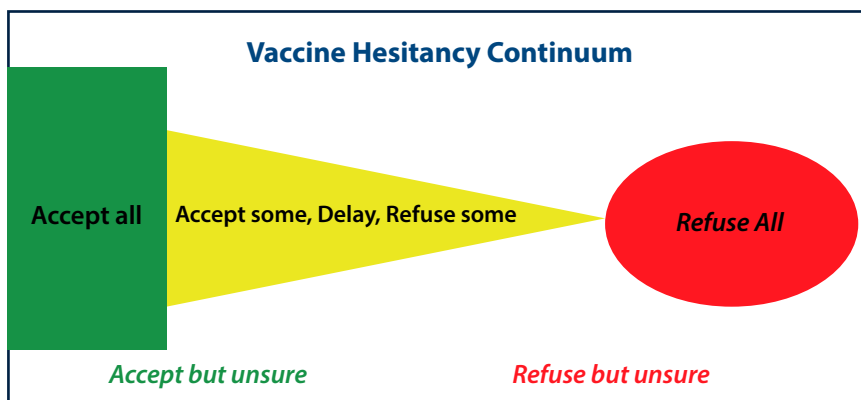


Figure 1. Vaccine Hesitancy Continuum, from the World Health Organization's Strategic Advisory Group of Experts

an individual's total acceptance of all vaccines to total refusal of all vaccines (Figure 1). In an assessment of the state of vaccine confidence in the United States, the National Vaccine Advisory Committee's (NVAC) Vaccine Confidence Work Group noted that although vaccine acceptance remains relatively high and stable, data on school exemptions, vaccination delays and declinations, and perspectives of parents, healthcare providers and public health workers indicate that there is room for improvement in building confidence to maintain

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the currently high vaccination coverage rates.³ For this reason, it is imperative that researching, maintaining, and increasing vaccine confidence be prioritized by immunization partners at every level.

Using data to identify under-/un-immunized individuals and communities

Immunization coverage and exemption assessments are particularly useful in identifying areas of low vaccination coverage or under-/un-immunized populations.

The CDC's *National Immunization Survey (NIS)* gauges immunization rates nationally. Data from the *2017 NIS-Child* show that although vaccination rates have generally remained stable and high, there has been a slight increase in the number of children who have not received any vaccines by age 24 months (0.9% for those born in 2011 compared to 1.3% for those born in 2015). The data also showed that vaccine rates are lower among those who are either uninsured or insured by Medicaid, as well as for those living in more rural areas.⁴ The *2018 NIS-Teen* showed that vaccination rates are increasing, however there is much room for improvement with only 51.1% of those aged 13-17 years up-to-date with the HPV series. This survey also reported similar disparities in vaccination rates among those who do not have private insurance or who live in rural areas.⁵



The CDC's *School Vaccination Assessment* collects data on school coverage and exemption rates. In the 2018-2019 school year, 2.5% of kindergarteners had an exemption for one or more vaccines (up slightly from 2.3% in 2017-2018), and an additional 2.0% were not up to date and did not have any exemptions. States with the highest exemption rates include Idaho (7.7%), Oregon (7.7%), Alaska (7.1%), and Maine (6.2%). Those with the highest number enrolled provisionally or under a grace period without an exemption are Ohio (6.7%), Vermont (5.1%), New Hampshire (4.9%), and Wisconsin (4.9%). If all non-exempt kindergarteners were vaccinated, 44 states could achieve over 95% measles, mumps, and rubella (MMR) coverage.⁶ A 2019 *The Lancet* article identified low vaccination rates caused by non-medical exemptions as one of the main factors that leads to disease outbreak.⁷

In addition to national vaccine data sources, states maintain immunization information systems (IIS). The standards and use of IIS vary by state, but IIS can provide

data on vaccinations at a population level. While all of these data sources are useful tools in identifying coverage rates for certain vaccines, age groups, or geographic regions, national and state coverage and exemption estimates can be limited in their ability to drill down further to identify specific pockets of vaccine hesitancy that may be evident at only the local community level.

Addressing Vaccine Confidence at the Local Level

LHDs have firsthand knowledge of their communities, however they need data to confirm their observations. Performing small area analyses, which study a specific small area or population to identify measurable differences from the larger population,⁸ can help to confirm or identify specific issues that may not otherwise be observed. This analysis can look at geographic, demographic, gathering place (i.e. church, school), and other targeted sites or populations. Doing this analysis can determine what specific hesitancies a group may have regarding vaccinations. For example, an Oregon community known for alternative health beliefs had low completion rates for the two-year-old vaccine series. It was assumed this was because of their health beliefs; however, further review uncovered that the local insurer discouraged families from making a 15- to 18-month visit. From just looking at the IIS, they wouldn't have discovered the real issue within the community. Once discovered, Oregon could work with the community to increase their vaccination rates.⁸

In 2017, NACCHO conducted an assessment of LHD immunization programs. Fifty-six percent of LHDs indicated vaccine hesitancy was one of the top barriers to their immunization program. Along with this, respondents indicated insufficient staffing (44%), lack of vaccine education and confidence (37%), and lack of funding (27%) as other barriers encountered.⁹ The assessment also included stakeholder interviews which echoed the results of the survey, with stakeholders indicating that they needed more staff capacity and funding to assess and address vaccine concerns in their areas.

Additionally, 44% of LHDs indicated that they do not have sufficient staff to perform even their routine immunization services.⁹ Many have had to reduce or stop offering immunizations altogether. With the loss of experienced staff, the need to build LHD infrastructure and provide additional training for staff is of great importance.

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Recommendations

In order to evaluate data, conduct small area analyses, and mitigate any issues found, LHDs need an increase in resources available to them. Many are operating on shoestring budgets and cannot spare resources. An increase in funding would provide LHDs the resources they need to secure a strong workforce, conduct analyses of existing data, and increase vaccine education, all of which would result in increased vaccine confidence and increased rates of vaccination. Given the data evaluated and needs expressed by LHDs, NACCHO recommends broadened support to LHDs to increase vaccine confidence through:

- Sustained funding to enable LHDs to hire additional staff to increase immunization services
- Funding to train existing staff to analyze data and perform small area analyses
- Trainings for LHD staff to address the hesitations in their communities

Conclusion

Local health departments are the backbone of the American public health system. They work directly with individuals in their communities and must address vaccine hesitancy, combat vaccine misinformation, and increase vaccine confidence. To keep vaccination rates high and provide protection for their most vulnerable populations, additional federal and state-level support is needed. Using national and state data that is available as well as performing small area analyses to identify the specific concerns regarding vaccines in their areas—and then using that data to inform outreach services—is just one way for LHDs to address vaccine hesitancy. Though vaccine hesitancy is a complex issue and will require a multi-pronged approach to fully address, expanded funding for staffing, training, and continued exploration to further understand the complexities at the local level will better enable LHDs to address vaccine hesitancy and increase vaccine confidence within their communities.

Acknowledgments

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