

Missouri Team Uses Evidence-Based Recommendations to Target Immunization Rates

In 2009, Missouri ranked last among states in administering the recommended series of vaccines for children between the ages of 19 and 35 months. On top of the low overall immunization rates, the downward trend in childhood immunization rates was troubling: the percentage of young children who received all of their recommended shots dropped from nearly 81 percent in 2006 to 59 percent in 2009. According to Harold Kirbey, deputy director of the Division of Community and Public Health within the Missouri Department of Health and Senior Services (MDHSS), “There was a great concern from the public health community that more and more kids were not being immunized.”

Since the 2009 report that ranked Missouri last in immunization rates, the “Show Me State” has adopted a series of evidence-based strategies, including implementation of a statewide ShowMeVax registry, enhanced education efforts, and 2010 immunization requirements for incoming preschool and day care students. In total, MDHSS has implemented eight recommendations included in The Guide to Community Preventive Services (The Community Guide; described below) to increase immunization rates and increase provider participation in the statewide immunization registry (Table 1).

Table 1. Missouri’s Evidence-Based Approach to Increasing Immunization Rates

Description of Intervention(s)	Task Force Recommendations
Implement community-based multiple interventions , including: client reminder and recall systems; media and educational activities; and expanded access to services through non-traditional clinics in 89 counties.	Community-based interventions implemented in combination
Use the registry to generate automated provider reminders for patients needing vaccinations.	Provider reminders
Implement a statewide ShowMeVax immunization information system to record vaccines administered by participating providers.	Immunization information systems
Utilize home visits in 22 counties to promote recommended vaccines and provide referrals to vaccine service providers.	Home visits to increase vaccination rates
Implement vaccination programs in schools and child care centers to educate and promote vaccines, track status, and refer under-immunized children to vaccine providers.	Vaccination programs in schools and organized child care centers
Provide immunization assessment, education, promotion, and referrals in the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) .	Vaccination programs in WIC settings
Use ShowMeVax to deliver client reminders and recalls and educational information.	Client reminder and recall systems
Use ShowMeVax to analyze and evaluate provider performance with delivering vaccines to their patients.	Provider assessment and feedback

Sources: “2011 Missouri Community Guide State Team Final Report.” “The Community Guide Interventions to Increase Appropriate Vaccination: Universally Recommended Vaccinations.” Available at <http://www.thecommunityguide.org/vaccines/universally/index.html>. Accessed 3-18-2013.

“What Is The Community Guide?”

The Community Guide is an essential resource for people who want to know what works in public health. The Community Guide provides evidence-based recommendations about public health programs, services, and policies that are effective in improving health. The recommendations are made by the Community Preventive Services Task Force, an independent, non-federal, unpaid panel of public health and prevention experts who are appointed by the director of CDC.

Homing In: Gathering Provider Data to Support Statewide Strategies. As these strategies were being implemented in 2010, a group of representatives from MDHSS, St. Louis University School of Public Health, Missouri Institute of Community Health, Missouri Association of Local Public Health Agencies and Missouri State University Ozarks Public Health Institute (OPHI) recognized a need to gather data about current provider use, as well as provider perceptions about how the registry could be improved to better meet their needs. Assessing provider behaviors and attitudes would not only identify unmet needs, but would also identify opportunities to strengthen and inform the registry and other existing immunization strategies.

To meet the need for additional provider data, in January 2011, a diverse multi-sector state team—representing state government and state and local public health organizations—convened for the Community Guide Strategy Workshop hosted by the Association of State and Territorial Health Officials and the National Network of Public Health Institutes. This two-day state strategic workshop gave five state teams the opportunity to support the development of evidence-based policies in their state using recommendations found in The Community Guide. The Missouri state team’s focus was to assess the current immunization environment through provider interviews and an online survey. By identifying barriers and provider issues, the survey informed the statewide registry’s development, as well as strengthened other existing immunization strategies.

In response to common challenges cited by respondents, the team also focused on supporting implementation of two evidence-based Community Guide interventions: a client reminder and recall system, and provider assessment and feedback, described below.

- Client reminder and recall interventions remind individuals—through a telephone call, letter, postcard, or other method—that a specific vaccination is due or late. Most reminder systems involve a specific notification for a specific client, and may be accompanied by educational messages regarding the importance of immunization for the targeted vaccine(s).
- Assessment and feedback for vaccination providers involves retrospectively evaluating providers’ performance in delivering one or more vaccinations to a client population and giving this information as feedback to the providers.

Based on these recommendations, the team members from Missouri developed, tested, and implemented a new registry tool to generate client reminders and recalls and evaluate provider performance in 2011. This case study describes these team activities and how they intersect with the state’s overall evidence-based approach to increasing immunization rates.

Identifying Barriers and Challenges to Provider Use of Registry

Early on, the team wanted to know more about provider attitudes and practices related to the state’s ShowMeVax immunization registry. Provider participation in the registry and other evidence-based immunization practices was identified as a key factor in the state’s ability to make significant gains in immunization rates. In addition to ensuring accuracy in the state’s reported vaccine rates, increasing the numbers of providers that utilize the system maximizes the registry’s potential for exchanging health records among providers and supporting providers through evidence-based tools, such as automated reminders and patient postcards. “The more we drive people to the registry, the higher and more accurate the [reported immunization] rate will be,” Kirbey says.

To that end, team members from OPHI developed an online survey in May 2011 to gather feedback about the current registry’s perceived benefits and drawbacks, as well as provider recommendations. OPHI developed an online questionnaire for local health departments, federally qualified health centers, hospital-related practices, health system and independent group practices, and independent practices. The survey assessed provider perceptions about the barriers that prevented non-users from using the registry, as well as challenges that current users encountered. In addition, the survey asked providers to identify the benefits of using the system, as summarized below in Table 2.

Missouri Team Highlights

Project Goal: To utilize evidence-based interventions to increase immunization rates in Missouri.

Selected Community Guide

Interventions: [Client reminder/recall systems](#) and [Provider assessment and feedback](#)

Partners: Led by Harold Kirbey, deputy director of the Division of Community and Public Health, the team consisted of representatives from MDHSS, OPHI, Missouri Association of Local Public Health Agencies, and Missouri Institute for Community Health.

Table 2. Survey Findings about Registry Strengths and Weaknesses

Perceived Benefits of Using the System	Fast and user-friendly system; access to immunization histories from different providers; ability to link a child’s records under a previous name and link all members of a family together.
Perceived Drawbacks	Not all immunization providers use the system; finding time to implement the system; lack of integration with EMR/EHR results in double-entry of data. Respondents also identified a need for training for new staff and ongoing training for current users.

Source: “Show-Me-Vax Online Survey Results.” OPHI. June 2011.

Respondents generally expressed the same challenges and barriers, and these did not vary depending on where respondents reside (i.e. rural or urban), nor whether or not they use the system. Respondents expressed that it was critical for the system to integrate with other systems and automate messaging. In addition, the survey analysis suggested that some non-users lacked adequate information about the registry, suggesting a need for provider education and marketing.

Using Provider Feedback to Support Existing and New Initiatives

The team’s findings about provider perceptions and registry use articulated the need for strategies aimed at staff training and education, enhanced interface between systems (to cut down on redundant data entry), and integration of scheduling software. According to the team’s final report, MDHSS used information from the surveys to “target those issues that inhibit private practitioner support for vaccinations and participation in the [...] registry.” Team members from the MDHSS Division of Community and Public Health used this feedback to increase provider education and marketing, improve interoperability across systems, and increase training opportunities through online training and webinars.

In addition, the team focused on implementing two specific recommendations: including client reminders and provider assessment and feedback. In the fall of 2011, team members from the Division of Community and Public Health developed, tested, and implemented new registry tools to generate client reminders and recalls, as well as provider assessment reports.

Because it is still early in the implementation phase, it is too soon to determine the impact that these changes will have on provider and patient behaviors and overall vaccination rates. That said, the state has made significant gains: in 2011, nearly 68 percent of children between the ages of 19 and 35 months had received their recommended vaccines, up from just 56 percent in 2009. Moreover, Kirby pointed out that more providers are using the system, in part because providers can meet Meaningful Use Stage 1 requirements by submitting electronic immunization information to registries. Kirby says that providers are recognizing the benefits of having a more complete medical history of their patients—something that often does not accompany patients who move frequently or see multiple providers.

Challenges, Lessons, and Opportunities

Engaging private practice providers to participate in the registry and promote vaccinations to their patients has been a “significant barrier,” according to the state team’s 2011 final report. The team addressed the challenge by developing a survey instrument to identify the issues and concerns that were limiting private practitioner engagement. Although independent practices represented a small share of all respondents, their feedback—for example, they were more likely to express concerns about negative impacts on workflow and staff resistance—informed the team’s subsequent provider education and technical assistance strategies.

As a result of the team's work with assessing provider use and perceptions and the related MDHSS activities, the team concluded that applying evidence-based practices to existing programs increases efficiency, improves programs, and garners support for programs. Engaging providers through the survey and increasing their participation in the state registry has produced health benefits beyond the vaccine registry. Since Missouri implemented this multi-dimensional approach, immunization rates and provider participation have increased significantly over 2009 levels. According to Kirbey, increased provider participation in evidence-based vaccination interventions also addresses the problem of anti-vaccine sentiments. "One of the best ways to combat anti-vaccine sentiment in the public," Kirbey says, "is to have the [evidence-based] information come from the healthcare provider community."

For more information on Missouri's initiatives:

Missouri State Team Overview

<http://nnphi.org/CMSuploads/MO%20showcase.pdf>

MDHSS Immunizations Webpage

<http://health.mo.gov/living/wellness/immunizations/index.php>

Provider Enrollment Toolkit

<http://health.mo.gov/living/wellness/immunizations/pdf/providerenrollmenttoolkit.pdf>

Vaccines for Children: Information for Parents

<http://health.mo.gov/living/wellness/immunizations/pdf/InformationforParents.pdf>

MDHSS ShowMeVax

<http://health.mo.gov/living/wellness/immunizations/showmevax.php>

Missouri Immunization Registry Implementation Guide

http://health.mo.gov/living/wellness/immunizations/pdf/immunization_registry_h17_implementation_guide_abbreviated.pdf

Summary of Evidence-Based Immunization Interventions

http://health.mo.gov/data/interventionmica/Immunizations/index_5.html

Evidence-Based Immunization Strategies

http://health.mo.gov/data/interventionmica/Immunizations/index_4.html

MDHSS Meaningful Use Webpage (including electronic submission of immunizations)

<http://health.mo.gov/atoz/mophie/>



Evidence-Based Public Health Case Study