

CLOSING

THE GAP

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Community health workers can be a vital component for pharmacies in enhancing vaccination rates

by Richard Logan, Crystal Benitez, Hunter Craig, Hannah Eberle, Maddie Ransford, Annie Eisenbeis, and Jake Galdo

Richard Logan, a co-author of this article, recounts a story about a longtime acquaintance:

“She started working for my dad as an executive assistant in the early 1980s and worked beside him until he retired. I’d known her for years. We were standing outside of her office building chatting one afternoon. It was toward the end of the pandemic, but COVID-19 was still wreaking havoc in our area. Pharmacist that I am, I asked to make sure she’d gotten the latest COVID vaccination.

“Oh, no,” she replied, ‘I’m healthy and I don’t believe in vaccinations. I don’t get flu shots or any of that stuff.’

“Despite my persuasive charm, my informed lecturing, and even our long-term friendship, I could not convince her to receive the vaccine. Within a month, COVID had claimed this sweet lady’s life. After knowing her for more than 40 years, I could not come up with the appropriate motivation, information, or right combination of words, to convince her to save her own life.

“This story repeated itself five times to me personally over the course of the pandemic. Five friends, five patients, five failures, five funerals. Five people who would lose their lives to what would come to be called vaccine hesitancy.”

A SOCIETY CHANGED

COVID-19 changed society. Forever. It taught the U.S. what a mobilized and deployed pharmacy profession could do. (More than 300 million doses of the vaccine just in the Federal Retail Pharmacy Program prevented more than one million deaths in the country.) COVID-19 taught the medical profession the importance of addressing vaccine hesitancy patient by patient. COVID-19 taught that the pharmacy profession could make giant strides in closing those vaccine gaps in care. COVID-19 taught the world that when you bring pharmacy professionals on board to work on health care problems, you can expect solutions.

One vital solution is the community health worker, or CHW, especially when located in a community pharmacy. These are often pharmacy technicians who took the next step in their training to become CHWs and experts in the social determinants of health (SDoH). A cross-trained CHW/pharmacy technician has a unique ability to not only relate to patients within the pharmacy, but to venture into the community, communicate with patients where they live, provide quality health-related information, and positively affect patients' attitudes surrounding vaccinations. In short, CHWs working with pharmacists were good at closing vaccination gaps.

The administration of appropriate vaccines is considered a foundational cornerstone of health care. Vaccines prevent diseases, save lives, and save money. COVID-19 vaccines have a cost effectiveness of \$8,200 per quality-adjusted life year. These vaccines quickly showed savings on acute health care costs, chronic condition management and individual wage earning. Another recent socioeconomic analysis found that adult vaccines return up to 19 times their initial investment to society – equivalent of

billions of dollars in net benefit – specifically, \$4,637 per vaccine.

Yet, from the yearly “flu shot” to new respiratory syncytial virus (RSV) or pneumococcal vaccines and recommendations, the health care system has struggled to close vaccination gaps in patients, resulting in unnecessarily high numbers of vaccine preventable diseases. Based on previous experience with COVID-19, it only makes sense to deploy trained pharmacy CHWs into the community to address these current gaps in care.

CPESN Missouri, along with CPESN Health Equity, have joined together within the state of Missouri to launch a Pharmacy Vaccine Gap Closure Program.

**NEEDS ASSESSMENT:
DEMOGRAPHIC DATA OF
VACCINE RATES AND GAPS**

The U.S. government's public health initiative for the last five decades is the Healthy People program. This program identifies public health priorities to help individuals, organizations, and communities address health and well-being with goals and metrics. The current Healthy People 2023 goals aim to increase vaccination rates for all persons. The Pharmacy Vaccine Gap Closure Program is doing just that.

As an example, the Healthy People 2030 goal is that 70 percent of the U.S. population receive the annual influenza vaccine by 2030. The most recent data from the 2020-2021 influenza season was 49.8 percent, below the 2019-2022 rate of 51.6 percent. In other words, less than half of the U.S. population is vaccinated for influenza and there are disparities within states and counties. The state of Missouri had 44.4 percent estimated coverage in the 2022-2023 flu season, and 30.2 percent within Mississippi County, Mo. (This is

where Richard was born, works, lives, and cares for patients.)

Another important preventative vaccine is the human papillomavirus (HPV) vaccine, which is more than 99 percent effective at preventing pre-cancers linked to 70 percent of cervical cancers as well as other cancers of the head and neck. Missouri vaccine coverage remains lower than the U.S. average (62.6 percent) and below the Healthy People 2030 goal (80 percent). As of December 2023, only 59.8 percent of adolescents aged 13-17 received recommended doses of HPV in Missouri.

But what about childhood immunizations? The measles, mumps, and rubella (MMR) vaccine is a two-dose series used to prevent these viral infections in children. MMR coverage was 90.5 percent in Missouri during the 2023-2024 school year, according to Missouri school districts. To illustrate this statistic, in a school of 100 children with one infectious child, a 90.5 percent vaccine coverage means that approximately 13 children are susceptible to contracting an infection, and there is a 51 percent chance of an outbreak. The Centers for Disease Control and Prevention (CDC) recommends maintaining 95 percent coverage for two doses of the MMR vaccine by kindergarten to provide lifelong disease protection.

The DTap and Tdap vaccines (diphtheria, tetanus, and acellular pertussis), are recommended for infants and children, pregnant women, and adults, or any individual who is not vaccinated. The Healthy People 2030 goal is to have 90 percent of children receive at least four doses of DTap by age 2. The American Academy of Pediatrics estimated the national coverage in 2023 to be 81 percent, with lower coverage for those living below the poverty line and living in rural areas. Missouri had a lower

DTap coverage rate than the nation, 77.3 percent, and an even lower coverage estimate in Mississippi County.

The herpes zoster vaccine, also known as the “shingles shot,” is used to prevent shingles for adults age 50 and older. The CDC recommends that healthy adults 50 and older receive two doses of a herpes zoster vaccine typically covered by commercial insurance plans and Medicare Part D. In 2021 The Government Accountability Office reported upward trends in 2021, showing herpes zoster vaccination coverage to be 31.3 percent in Missouri, which was even with the national coverage (31.6 percent). Overall coverage was higher in white adults compared to Black and Hispanic populations, and individuals with low insurance coverage and medical literacy.

POPULATION HEALTH TAKEAWAYS

There are a variety of takeaways from this population health data. First, there is a rural gap that separates vaccine coverage at the state and county levels. People may not get vaccinated because of access to care issues – there may not be enough pharmacists, health departments, physicians, or hospitals (or any at all due to some many closures) – or even cost. The Affordable Care Act mandated all vaccines are zero copay, but that’s not the case in pharmacy benefits. Also, many individuals may be afraid of the vaccine or don’t believe it works. Misinformation is an epidemic in public health. Finally, not all vaccines are the same – some are one and done, others are a multi-dose series with boosters and the target immunization rates are all different.

Table 1 is an overview of the various vaccines, rates, and current trends. The final, and most important population health takeaway, is there is room

Immunization	Immunization target	National	Missouri	Mississippi County, Mo.
Influenza	70%	49.3%	44.4%	30.2%
Human papillomavirus	80%	62.6%	59.8%	
Measles, mumps, rubella	90.8%	91.6%	90.5%	
DTap	90%	81%	77.3%	
Bivalent COVID-19 booster		16.1%	14.8%	5.2%
Pneumococcal (≥65 years)	95%	65.8%	72.6%	
RSV		24.4%	11%	

Note: Not all vaccine rates reported, national targets, and/or available. Some differences in reported data year and target source. This data was normalized for the table.

for improvement. The percentage of individuals vaccinated is nearly always below immunization targets. Continued efforts by pharmacists, physicians, and society are needed to improve immunization rates.

ROLE OF PHARMACY AND CHWs

As discussed earlier, CHWs are public health professionals who can bridge gaps between patients, health care team members, and resources through closer understandings and connections with the served community. CHWs are particularly focused on communicating with patients in a way that is understanding of their setting and culture and can provide information regarding local resources best fitted for the unique situations of patients and their communities through the identification of health barriers and possible intervention strategies.

Alternatively, pharmacy personnel, such as pharmacists and technicians, specialize in strong medication

knowledge and addressing medication-related health challenges for patients. These positions are also crucial in increasing vaccination rates, as they are highly accessible options for providing vaccinations. However, to combat vaccine hesitancy, a deep understanding of the complex situations of patients is also necessary.

Pharmacists and pharmacy technicians cross-trained as CHWs can utilize their pre-existing, extensive knowledge of health care, resources, and services to further increase their understanding of assessing patient needs, successfully advocating for them, and best educating them regarding health topics. Through cross-training, pharmacy CHWs are able to provide unique perspectives on patient care, increasing efficacy and positive health outcomes.

Pharmacy CHWs play a vital part in minimizing vaccine hesitancy due to their dual role as both providers and

educators. As pharmacists and technicians, personnel are highly educated on vaccines and have the ability to accurately explain any misconceptions regarding them. Additionally, they can administer vaccines, increasing accessibility. As CHWs, cross-trained personnel can utilize their education to best address the concerns and fears of patients and provide solutions specific to their community and circumstances, thus educating the community. CHWs are therefore able to apply pharmaceutical knowledge to more successfully address specific patient concerns, decrease vaccine hesitancy, and increase positive health outcomes.

TEAMING UP TO CLOSE GAPS

The Missouri Pharmacy Association (MPA), CPESN Missouri, and CPESN Health Equity joined together to launch the Pharmacy Vaccine Gap Closure Program. This initiative, supported by the Missouri Department of Health and Senior Services Bureau of Immunizations, with funding from the CDC, aims to show the feasibility of pharmacy teams – pharmacists, pharmacy technicians, and CHWs – to provide vaccine hesitancy services and ultimately, increase vaccination rates.

This program initially started with workforce development – cross-training pharmacy technicians as CHWs. Starting in 2022, MPA and CPESN Missouri partnered with CEImpact to provide a pharmacy-based community health worker training program. This workforce training initiative included scholarships for CHW training and a stipend to the pharmacy for development of a health equity income stream. Once network adequacy of pharmacies with community health workers was reached (and the network is still growing), the vaccine hesitancy service was launched.

Initially, the focus was on pharmacy patients and a single education intervention. CPESN Missouri pharmacies already have focused monthly touchpoints centered around the pharmacy's medication synchronization workflow process as part of the minimum standard for participating in CPESN Missouri. The vaccine hesitancy service is part of the pharmacy's med sync process, building on this to add longitudinal education and follow-up. Pharmacy technicians, certified as CHWs or SDoH specialists (a CPESN Health Equity minimum standard), delivered the vaccine hesitancy counseling after a pharmacist conducts a holistic immunization eligibility screening.

The intervention is based on a nationally recognized G-code, uses time-based billing, and can be delivered by CHWs. In interventions lasting between five and 15 minutes, the CHWs identify barriers to vaccines and help with a culturally appropriate and empathetic approach to address vaccine misunderstanding and connect local patients to local resources. Along with vaccine hesitancy counseling, CHWs also identified and resolve health-related social needs.

PROMISING RESULTS

In the first six months, more than 28,000 interventions have occurred, representing more than \$700,000 paid to pharmacies for patient care services for not dispensing medications – providing a service. Some have focused on a specific vaccine the patient may be eligible for and others have broadened the session to address other issues of vaccine hesitancy and supporting access to vaccinations. The focus on education and hesitancy is built on an already established and trusted relationship between patients and the pharmacy team.

Preliminary data show an approximately 7 percent gap closure rate. And not all vaccines are the same – gap closure for influenza is less than 7 percent – showing this service can help improve immunization rates in other routine vaccines, also considering that the typical flu shot “season” has not started yet.

And what's the socioeconomic benefit? Pharmacies generated service-based revenue through CHW-led education. And society saved \$9.2 million – because each vaccine administered saves the health care system \$4,637.

The model of this program is about pharmacy sustainability. It's about creating a gold standard for pharmacy payment in health equity revenue – not prescription revenue and not clinical practice revenue. This program is successful because of the community health equity and health equity services – available at the pharmacy but not because of the pharmacy, and this model is taking off. CPESN Virginia is now working on a similar project, supported by CPESN Missouri and CPESN Health Equity, for vaccine hesitancy services in skilled nursing facilities. The next phase of the Missouri program launched in July 2024 – including vaccination clinics, CHW-led care coordination, and new payment models for health equity services. More opportunities are appearing for pharmacies with community health workers. And it's the CHW that opens the door. ■

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