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Permalink

<https://escholarship.org/uc/item/9vf8q64k>

Journal

Public Health Reports, 134(3)

ISSN

0033-3549

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Publication Date

2019-05-01

DOI


10.1177/0033354919834579

Peer reviewed

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Public Health Reports
2019, Vol. 134(3) 241-248
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DOI: 10.1177/0033354919834579
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Abstract

In Minneapolis–St Paul, Minnesota, factors such as cultural and linguistic diversity make it difficult for public health agencies to reach immigrant and racial/ethnic minority populations with health initiatives. Founded in 2006, the Minnesota Immunization Networking Initiative (MINI) is a community project that has provided more than 80 000 free influenza vaccinations to vulnerable populations, including immigrants and racial/ethnic minority groups. MINI administered 5910 vaccinations through 99 community-based vaccination clinics during the 2017-2018 influenza season and surveyed the clients in their own language about influenza vaccination knowledge and practices. Among those surveyed, 2545 (43.1%) were uninsured and 408 (6.9%) received a first-time influenza vaccination at the MINI clinic. A total of 2893 (49.0%) respondents heard about the clinic through their faith community. Lessons learned included the importance of building relationships with community leaders and involving them as full partners, holding clinics in community-based settings to bring vaccinations to clients, and reporting outcomes to partners.

Keywords

faith-based, community health, influenza vaccination, immigrant and minority health

In Minnesota, racial/ethnic minority populations comprised 19% of the population in 2015,¹ and nearly 500 000 residents were non-US-born during 2012-2016.² Factors such as cultural and linguistic diversity make it difficult to reach these communities with immunizations and other public health programs. Vaccination coverage for many preventable diseases is lower for non-US citizens, recent immigrants, and persons interviewed in a language other than English than for US-born persons.³

The Minnesota Department of Health, Fairview Health Services (a nonprofit health care system based in Minneapolis, Minnesota), and leaders from African American, Latino, and American Indian communities developed the Minnesota Immunization Networking Initiative (MINI) in 2006 to reduce vaccination barriers (eg, lack of access to health care, differing vaccination schedules in the country of origin, and poverty) faced by vulnerable populations.⁴ The vulnerable populations targeted by MINI include many racial/ethnic minority and immigrant communities: African American, African-born (Somali, Ethiopian, Liberian, Eritrean), Asian/Pacific Islander (Burmese, East Indian, Tibetan,

Hmong, Laotian, Vietnamese, Chinese, Karen, Karenni), Hispanic/Latino, and American Indian.

From 2006 through January 2019, MINI worked with community- and faith-based organizations to deliver more than 80 000 free influenza vaccinations to persons aged 6 months or older. A key feature of the program is that MINI's founders recognized early on that communities need to be part of program leadership to reach communities that

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mistrust the government and medical professions. One of MINI's founding members noted the following:

From the very beginning, MINI was a collaborative that was led by community members who wanted to work together to provide free influenza vaccinations. The 5 founding members included a representative from the Minnesota Department of Health, a representative from Fairview Health Services, and, most importantly, 3 leaders from African American, Latino, and American Indian communities who were trusted within their constituencies. They had the ability to talk to their members about hosting a flu shot clinic. The 5 of us were in a growing relationship that grew into trust. Trust is the strongest reason MINI has worked for more than a decade.

At the time MINI was launched, no similar local programs existed. MINI was innovative in providing free influenza vaccinations at community-based clinics to vulnerable populations. Other Minnesota organizations such as pharmacies have since provided free influenza vaccinations, but MINI remains unique in fully engaging community partners to promote and host clinics. We describe MINI's formation, aspects of the program, and lessons learned from the first decade of this initiative. This case study may be of interest to practitioners looking to implement similar programs on a range of public health issues that target vulnerable populations.

Methods

From 2001 through 2007, the Minnesota Faith Health Consortium (the precursor to MINI, a collaboration among Fairview Health Services, the University of Minnesota, and Luther Seminary) was 1 of 78 teams of religious and public health leaders in 24 US states trained by the Emory University Interfaith Health Program. Emory University's Interfaith Health Program is an academic-based program that brings together a diverse community of scholars and public health practitioners to actively promote the health and well-being of individuals and communities that face health disparities. The Minnesota Faith Health Consortium and others in this cohort shared experiences working with community- and faith-based organizations to understand community health beliefs and distribute health messages consistent with community experiences, expectations, culture, and language. In 2005, the Minnesota Faith Health Consortium coordinator attended a meeting convened by the Centers for Disease Control and Prevention (CDC) and the Emory University Interfaith Health Program that focused on disparities in receipt of influenza vaccinations.⁵ Attendees learned about the epidemiology of influenza,⁶⁻¹⁰ shared ideas about addressing influenza vaccination disparities, and informed one another about previous influenza vaccination efforts. This meeting led to the founding of MINI to promote annual influenza vaccination, particularly among vulnerable populations.⁵

To reach the target populations, MINI focused its vaccination campaigns on nontraditional settings, such as places of worship, homeless shelters, and food pantries, in agreement with CDC's Community Preventive Services Task Force and Advisory Committee on Immunization Practices support for the use of immunization programs in such nontraditional settings.^{11,12} Thus, in 2006, MINI organized its first vaccination campaign using nontraditional settings with an initial \$25 000 grant from a local foundation. Fairview Health Services provided a part-time salaried staff member (the Minnesota Faith Health Consortium coordinator). An early MINI partner, Homeland Health Specialists, a Minnesota-based provider of essential wellness and vaccination services, provided vaccine and registered nurses as vaccinators. MINI operated under "standing orders," a standardized practice that allowed nurses to administer vaccinations according to a physician-approved protocol. The Minnesota Department of Health advised the collaborative about acquiring, administering, and storing the influenza vaccine. MINI leadership adopted the National Vaccine Advisory Committee standards for immunization programs in nontraditional settings.¹³ These standards include guidance about information to be provided to vaccine recipients, vaccine storage and handling, immunization history and screening for adverse reactions or allergies, submission of immunization records to the Minnesota Immunization Information Connection, vaccine administration by licensed health care professionals, and response to adverse events, including emergency protocols and reporting to the Vaccine Adverse Event Reporting System. As MINI grew, the partnership supporting it evolved. For example, the Minnesota Faith Health Consortium disbanded and other partners joined the MINI effort.

In 2006, MINI heard informally from partners that even though influenza vaccinations were provided free of charge, immigrants and racial/ethnic minority populations would not go to public health clinics if they did not trust the government or the medical profession. MINI decided to hold clinics in trusted community facilities at times when persons were already in the facility. Hosts of the nontraditional sites oversaw logistics such as client registration, room assignment, and interpretation when needed. The community-based clinics helped to overcome barriers to vaccination such as access, appointment times, transportation, and mistrust. After 2006, MINI received vaccine donations from pharmaceutical companies that helped to sustain the new collaboration. During the 2009 H1N1 influenza pandemic, MINI expanded and held clinics in mosques, a Buddhist monastery, a Hindu temple, and Ethiopian, Sikh, and Vietnamese faith organizations.

In 2010, MINI received the first of 5 Eliminating Health Disparities Initiative (EHDI) grants from the Minnesota Department of Health Office of Minority and Multicultural Health, with a year-to-date cumulative total of more than \$1 million. EHDI grants are part of a multiyear legislative mandate to reduce health disparities within the state.¹⁴ At that time, MINI was able to engage volunteer vaccinators from

Box. Results of a thematic analysis of community health beliefs among 119 Ethiopian, Somali, Latino, and American persons in 13 focus groups conducted by the Minnesota Immunization Networking Initiative (MINI), Minneapolis-St. Paul, Minnesota, 2013^a

- Some groups believed that influenza was the same as the cold (eg, in the Hispanic community, the words for “cold” and “flu” were the same), leading to beliefs of low risk of disease and underestimation of influenza severity.
- Some groups believed that influenza vaccinations made persons sick. For example, the Somali population believed in a connection between the measles-mumps-rubella vaccine and autism, and this belief spilled over to influenza vaccination.
- Some groups believed that influenza vaccinations do not work.
- Some persons said they would get an influenza vaccination to protect their child even if they personally did not believe in influenza vaccination.
- Some American Indians expressed a lack of trust in the government. They said they needed to hear from trusted persons, such as elders and respected community members.
- Some Latino, Somali, and Asian respondents said their trusted voices were their religious leaders (ie, “If the Imam says so, we will do it”).
- Educational materials about influenza vaccination needed to be translated; however, in some Somali and Asian populations, many community members could not read. As such, the oral tradition was most important (ie, persons received information by word of mouth from community members).
- Physicians and persons serving their community, especially those who were a part of the racial/ethnic or immigrant population, were also seen as trusted persons.

^aMINI is a community-based collaborative that provides free influenza vaccinations in nontraditional settings for uninsured and underinsured immigrant and racial/ethnic minority groups.

Fairview Health Services and subcontract with partners (Figure).^{15,16} MINI shared this funding among 11 partners serving Hispanic/Latino, African American, Asian/Pacific Islander, American Indian, and East African populations at more than 100 clinics. MINI also applied for and received approval to obtain vaccines through the Vaccines for Children program, an entitlement program for uninsured children, and the Minnesota-based Uninsured and Underinsured Adult Vaccine program, which provides free vaccines for uninsured adults. Receiving vaccine from both programs meant that MINI now had to screen for health insurance and submit the number of vaccinated persons to the Minnesota Department of Health.

As of January 2019, MINI has grown to support an annual vaccination campaign costing approximately \$250 000 per year. Fairview Health Services provides half of the expense, key personnel, office support, and donated vaccine. Homeland Health Specialists and a third agency are subcontracted to vaccinate along with Fairview. Vaccine is obtained through grant funding, the Vaccines for Children program, and the Uninsured and Underinsured Adult Vaccine program.

Outcomes

From 2006 through 2018, MINI provided more than 80 000 free influenza vaccinations to vulnerable populations, including immigrants and racial/ethnic minority groups. Qualitative and quantitative programmatic data informed efforts. For example, to understand community health beliefs, in 2013 MINI conducted 13 focus groups with more than 119 persons from Ethiopian, Somali, Latino, and American Indian communities (Box) to develop and improve health messages, such

as a simple 1-page fact sheet in multiple languages showing the difference between a cold and influenza.

From October 1, 2017, through January 31, 2018, MINI provided 5910 vaccinations through 99 community-based vaccination clinics at various times and locations. During the informed consent process, MINI surveyed all 5910 MINI clinic clients in their own languages (eg, Somali, Amharic, Spanish, Hmong, Vietnamese, Karen) using a written questionnaire about knowledge and attitudes about influenza vaccination. All clients who received an influenza vaccination completed the survey at the same time they provided informed consent; however, clients could leave blank any questions they chose not to answer. Of those surveyed, 2545 (43.1%) were uninsured and 408 (6.9%) reported receiving a first-time influenza vaccination at the MINI clinic. Of 8561 responses to the question about reasons for choosing the clinic (each participant could choose up to 3 reasons), 1707 (19.9%) indicated convenient location, 1159 (13.5%) indicated free vaccination, and 1098 (12.8%) indicated lack of health insurance to pay for vaccination. Of 5910 respondents who specified a source of information about the clinic, 2893 (49.0%) heard about the clinic through their faith community, followed by friend or family member ($n = 772$, 13.1%), a community agency/site ($n = 568$, 9.6%), a flyer ($n = 322$, 5.4%), and online/social media ($n = 116$, 2.0%; Table).

Lessons Learned

In its first decade, MINI became a trusted agent with vulnerable populations and public health agencies in the Minneapolis–St Paul area. MINI complements other programs that work with community- and faith-based organizations to

Process: Inputs (Resources)	Process: Outputs		Outcomes: Impact		
	Activities	Participation	Short-Term (1-3 Years)	Medium-Term (4-6 Years)	Long-Term (7-10 Years)
<ul style="list-style-type: none"> • MINI project director • Funding • Data on health disparities • MINI clinical volunteer coordinator • MINI evaluator • MINI partner organizations • MINI site coordinators • Facilities • Time • Health care vaccinators • Materials/supplies • Vaccine • Dental varnish • Dental hygiene students • Health insurance data 	<ul style="list-style-type: none"> • Hold planning/evaluation meetings with partner organizations. • Establish relationships with potential community partners. • Establish sites: date, time. • Promote and hold clinics. • Enroll in Vaccines for Children and Underinsured Adult Vaccine programs to receive influenza vaccine. • Provide free vaccinations. • Enter immunization information into state registry (MIIC). • Recruit, train, and place Fairview volunteer vaccinators. • Fairview volunteers complete evaluation survey. • Clients complete convenience sample survey. • Children receive dental varnish at 5 MINI sites. • Clients give health insurance card for influenza vaccination. 	<ul style="list-style-type: none"> • 15-20 persons attend 2 meetings. • New partners identified: University of Minnesota School of Dentistry (10 students, 6 professors) • 200 Fairview volunteers identified; 80 placed, 100% complete • 125 MINI clinics are held. • 7000 immunizations are administered; 10% are first-time influenza vaccinations. • All consent forms are entered into MIIC. • Convenience sample survey is completed by representatives of all groups served. • 300 children receive dental varnish at 5 Latino sites. • 10% of persons at selected MINI pilot clinics give their health insurance card to pay for vaccination. 	<ul style="list-style-type: none"> • Populations identified for Eliminating Health Disparities Initiative¹⁴ grant intentionally reached with influenza immunizations; output and outcome coincidental. • New immunization records created for persons not previously in the MIIC statewide database (this allows access to medical records for persons who may not have a medical home). • Number of persons reporting first influenza vaccination will diminish compared with previous seasons. • Fairview volunteer vaccinators report satisfactory experience. • Barriers and facilitators to immunizations are better understood through client survey. • Dental varnish fluoride treatments protect the teeth of children from decay. • Health insurance payments offset expense for MINI. 	<ul style="list-style-type: none"> • Number of diverse partners increases. • Persons are willing to receive other health information/services as a result of coming to the MINI clinics. • Deliberate tracking of ethnicities receiving influenza vaccination will provide new data for Minnesota Department of Health. • Barriers to immunizations are reduced because of the MINI clinic outreach. 	<ul style="list-style-type: none"> • Hard-to-reach populations (immigrants, homeless, racial/ethnic minority groups) receive annual influenza vaccination. • Research shows that the activities of the MINI project should have the potential to reduce health disparities. <ul style="list-style-type: none"> ◦ Data show that vaccines are among the most cost-effective clinical preventive services.¹⁵ ◦ Worker absenteeism and school absenteeism are reduced as a result of receiving annual influenza vaccination.¹⁶
<p>Assumptions</p> <p>The barriers to receiving an annual influenza vaccination include lack of insurance, cost, no medical home, transportation issues, and lack of trust of the government and medical profession. People trust their faith community and/or community sites and will come to be immunized in a safe, nontraditional, and convenient setting where the entire family can be served together.^{11,12}</p>			<p>External Factors</p> <p>Vaccine supply and unsecured funding constantly affect the MINI project. People affected by health disparities are often in hard-to-reach, at-risk populations who typically have low participation rates for immunizations overall, so engaging them is a challenge. Some are reluctant to give personal information. Weather in Minnesota may cause clinic cancellations or result in low attendance. Cultural beliefs are a negative factor.</p>		

Figure. Logic model for Minnesota Immunization Networking Initiative (MINI), Minneapolis–St Paul, Minnesota, 2015–2016. MINI is a community-based collaborative that provides free influenza vaccinations in nontraditional settings for uninsured and underinsured vulnerable populations, including immigrant and racial/ethnic minority groups. The process section describes the program's inputs (resources) and outputs (direct products, including activities and participation). The outcomes section describes the impact or intended effects of the program, including short-term, medium-term, and long-term effects. The figure also describes the assumptions that the model takes into account and the external factors that influence its implementation. Additional information about logic models is available at www.cdc.gov/dhdsdp/docs/logic_model.pdf. Abbreviation: MIIC, Minnesota Immunization Information Connection.

Table. Minnesota Immunization Networking Initiative (MINI) survey^a of 5910 persons receiving influenza vaccination at a MINI-organized clinic, Minneapolis–St Paul, Minnesota, 2017-2018 influenza season

Characteristic	No. (%)
Sex	
Female	3049 (51.6)
Male	2505 (42.4)
Other	4 (0.1)
Not specified	352 (6.0)
Age group, y^b	
0-5	242 (4.1)
6-9	486 (8.2)
10-18	1091 (18.5)
19-44	2107 (35.7)
45-64	1370 (23.2)
65-74	305 (5.2)
≥75	114 (1.9)
Not specified	195 (3.3)
Race/ethnicity^c	
African-born nationality	195 (3.3)
African American	371 (6.2)
Asian/Pacific Islander	1769 (29.7)
Non-Hispanic white	586 (9.8)
Hispanic/Latino	2107 (35.4)
Multiracial	60 (1.0)
American Indian	41 (0.7)
Not specified	826 (13.9)
First time vaccinated for influenza?	
Yes	408 (6.9)
No	5393 (91.3)
Not specified	109 (1.8)
Health insurance	
Yes	3202 (54.2)
No	2545 (43.1)
Not specified	163 (2.8)
Do you have a physician or clinic where you have gone for a shot or check-up in the last year?	
Yes	3442 (58.2)
No	1531 (25.9)
Don't know	334 (5.7)
Not specified	603 (10.2)
Reasons for choosing this location for vaccination^d	
No health insurance	1098 (12.8)
No regular physician or clinic	212 (2.5)
No appointment necessary	1122 (13.1)
Convenient location	1707 (19.9)
Whole family can get vaccinated at the same time	705 (8.2)
Was already here for another reason	506 (5.9)
Vaccinations provided for free	1159 (13.5)
Trusted place/setting	524 (6.1)
Interpreters (speak my language)	285 (3.3)
Don't know	154 (1.8)
Other	371 (4.3)
Not specified	718 (8.4)
How did you hear about this MINI clinic?	
Faith community	2893 (49.0)
Flyer	322 (5.4)
Friend or family member	772 (13.1)
Online/social media	116 (2.0)

(continued)

Table. (continued)

Characteristic	No. (%)
Community agency/site	568 (9.6)
Other	889 (15.0)
Not specified	350 (5.9)
Total	5910 (100.0)

^a MINI is a community-based collaborative that provides free influenza vaccinations in nontraditional settings for uninsured and underinsured immigrant and racial/ethnic minority groups. This survey was a census of all persons who received an influenza vaccination at a MINI-organized clinic during the 2017-2018 influenza season.

^b Participants aged <9 could be assisted by a parent or guardian.

^c Participants could choose more than 1 race/ethnicity. Percentage is based on the total number of responses (n = 5955) rather than the number of survey respondents (n = 5910).

^d Participants could choose up to 3 reasons for choosing the location. Percentage is based on the total number of responses (n = 8561) rather than the number of survey respondents (n = 5910).

serve these populations. Although previous studies on similar programs provide useful information, they involved a small number of participants during a short time frame, so questions about practical implementation of these types of programs remain.¹⁷⁻²¹ MINI adds to the literature on immigrant and racial/ethnic minority vaccination programs by demonstrating the feasibility of implementing an intervention on a large scale for an extended period.

Over time, MINI has demonstrated that public health agencies can work with communities for various interventions beyond influenza. For example, Minnesota has one of the largest US Liberian communities. Amid Ebola concerns in 2014,²² MINI worked with the Minnesota Department of Health and local community leaders to inform and reassure the Liberian community about transmission risks. In 2016, MINI piloted a free fluoride dental varnish program for 203 young persons who were at risk for tooth decay. Studies show that professionally applied fluoride gel varnish can prevent tooth decay.²³ This program continues, with dental varnish being offered at MINI clinics where large numbers of children attend.

Several lessons can be learned about how such interventions can be taken to scale and sustained. Although MINI's work is specific to Minnesota, some general concepts may be of value in other similar settings or locations, among other immigrant and racial/ethnic minority populations, or for other health issues.

Commit to “Show up and Stay” for the Long Term, or Don't Start

Project founders—in MINI's case, the Minnesota Department of Health, Fairview Health Services, and key community leaders—should commit to a long-term relationship and work through problems when they arise. Researchers have described a “perception of exploitation” in which outside researchers are perceived to have “used” participants for their own personal gain (eg, a clinical trial, a research

project).²⁴ In contrast, MINI learned to commit to a long-term relationship with community partners. Building relationships takes time. Of note, all the founding organizations are still part of MINI's leadership.

Empower Community Partners to "Own" the Effort

MINI involved all partners from the first organizational meeting. Partners need to own the program's mission and give input into how the initiative is formed and managed. Ensuring that the program was designed and executed with the full participation of MINI partners helped encourage communities to own the effort. MINI uses the phrase "cultivate the invitation." A community that invites MINI becomes MINI's full partner, so the community takes ownership of the program. Partners own the community engagement, and MINI brings the vaccine and vaccinators. A memorandum of agreement defines each partner's role. As an example of community ownership, one year MINI was unable to provide vaccine for a site because of an unanticipated late shipment. The community partner was so committed to hosting the vaccination clinic that it identified another vaccine supplier. Despite disappointment at not being able to support the clinic, this example was evidence of community ownership. Another aspect of community ownership involves respecting the host site's responsibility for ensuring that cultural norms and traditions are followed. The ownership principle is the reason that MINI succeeds with diverse populations. For example, for a vaccination clinic at a local mosque, MINI provided a private area for women to be vaccinated, and volunteers took off their shoes when they entered the mosque.

Build Relationships With Target Communities Before They Get Involved in the Project

One way to help overcome mistrust of the government and medical professions is to invite community partners to events, attend their activities, and get to know their leaders. Building relationships includes learning cultural nuances and traditions and admitting that no single partner has all the answers. MINI found that communities will teach others about their values, cultural nuances, and traditions if persons are willing to learn. Language nuances can be challenging even when everyone speaks English. MINI brings printed materials in the host community's language and arranges for interpreters as needed. There is no substitute for time when building relationships and trust.

Communicate Clearly

It is essential for all partners to know the purpose, focus, mission, and limitations of the collaboration. Knowing what cannot be done is as important as knowing what is needed. For example, all partners need to know that proselytization, soliciting donations, or refusing clients based on religion are not permitted during MINI clinics. If changes to the mission

are made, make sure that all partners agree on the new approach. Financial issues and an unwillingness to give credit to others can also be barriers to sustainability. When sharing grant funding among community partners, a memorandum of agreement can clearly define the scope of work, roles, and responsibilities. It is also essential to recognize accomplishments and report outcomes to all partners through a printed report, a meeting, or an email.

Make Use of "Found Time"

MINI encourages host clinics to offer vaccinations at times when large numbers of persons are present, for example, after a worship service, at a food pantry, or at a health fair. MINI goes to where the persons are rather than having them come to a traditional health care setting. MINI hosts clinics and offers vaccinations at times when the target populations are found in the facility for another reason, that is, "found time." MINI has found that persons will not make a special trip to get influenza vaccinations, even when the vaccinations are free.

Grow Slowly

MINI is careful to "make haste slowly." It is important to keep moving forward but to do so at a sustainable pace, which allows all partners to try new approaches. As an example, one year MINI attempted an insurance pilot program through which insurance payments would be accepted for vaccinations from persons who had insurance. However, MINI concluded that the challenges of accounting outweighed the benefits, and the pilot program was discontinued.

Work With Faith Communities

Faith community leaders are trusted by their congregants and, often, by the surrounding community. Trust can transcend leadership changes. For example, at one congregation, a priest would publicly receive his annual influenza vaccination to demonstrate his support. When a new priest took over the congregation, he continued the same practice. Many congregations have community nurses and volunteers who serve the congregation and community by conducting health education and neighborhood outreach. Faith communities often know where vulnerable persons live, and some faith communities offer ministries to persons with mental or physical disabilities. In many instances, congregations have a facility that has been in the neighborhood for decades. Because faith communities reach entire families, they enable MINI to serve all ages. Faith communities are often part of existing networks. For example, MINI is linked to a network of more than 30 African American churches and a network of 2 dozen Roman Catholic churches serving the Hispanic/Latino population.

This case study had the following limitations. Because MINI was not a research study, the data presented are programmatic, descriptive, and not necessarily generalizable to

other settings. MINI currently lacks the capacity to provide analytical comparisons or assess pre- and postintervention data or influenza vaccination rates. However, in the future, MINI might consider partnering with a university or academic institution to conduct research or assist with a formal evaluation. A possible downside to the program is that immigrant and racial/ethnic minority communities may become reliant on MINI as a source of influenza vaccination. Therefore, MINI must work to maintain its broad-based support to sustain this safety net.

The MINI case study demonstrates the feasibility of engaging with faith-based and other community partners to provide influenza vaccinations to vulnerable populations, including immigrant and racial/ethnic minority communities for an extended period. MINI will continue to adapt and innovate, look for new opportunities, and stay true to the mission of serving populations with the greatest need.

Authors' Note

The findings and conclusions in this article are those of the authors and do not necessarily represent the official position of CDC. Because information about influenza can change rapidly, we encourage interested readers to visit www.cdc.gov for the most up-to-date information.

Acknowledgments

The authors thank Reverend Alfred Babington-Johnson of the Stair-step Initiative, Cristina Flood Urdangarin of St Mary's Health Clinics, Dr Ken McMillan of the American Indian Community Development Corporation, and Marge Kern and Abhi Andley of Homeland Health Specialists. We also thank Drs Kristine Sheedy, John Blevins, Mimi Kiser, and Alfonso Rodriguez Lainz for helpful input and support.

We dedicate this article to the memory of Dr Toby Merlin (1952-2018), who envisioned and funded the initial 2005 CDC/Emory University Interfaith Health Program meeting, which led to the creation of MINI, and who continued to be a strong advocate for these and many other efforts to improve the health of underserved populations.


Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This publication was supported by Eliminating Health Disparities Initiative grants (MN Statute 145.928) from the Minnesota Department of Health Office of Minority and Multicultural Health.

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