

An Innovative United States–Mexico Community Outreach Initiative for Hispanic and Latino People in the United States: A Collaborative Public Health Network

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Abstract

Collaborative partnerships are a useful approach to improve health conditions of disadvantaged populations. The *Ventanillas de Salud* (VDS) (“Health Windows”) and Mobile Health Units (MHUs) are a collaborative initiative of the Mexican government and US public health organizations that use mechanisms such as health fairs and mobile clinics to provide health information, screenings, preventive measures (eg, vaccines), and health services to Mexican people, other Hispanic people, and underserved populations (eg, American Indian/Alaska Native people, geographically isolated people, uninsured people) across the United States. From 2013 through 2019, the VDS served 10.5 million people (an average of 1.5 million people per year) at Mexican consulates in the United States, and MHUs served 115 461 people from 2016 through 2019. We describe 3 community outreach projects and their impact on improving the health of Hispanic people in the United States. The first project is an ongoing collaboration between VDS and the Centers for Disease Control and Prevention (CDC) to address occupational health inequities among Hispanic people. The second project was a collaboration between VDS and CDC to provide Hispanic people with information about Zika virus infection and health education. The third project is a collaboration between MHUs and the University of Arizona to provide basic health services to Hispanic communities in Pima and Maricopa counties, Arizona. The VDS/MHU model uses a collaborative approach that should be further assessed to better understand its impact on both the US-born and non-US-born Hispanic population and the public at large in locations where it is implemented.

Keywords

culturally tailored partnerships, Hispanic, health inequities, institutional capacity building

An estimated 56.5 million Hispanic or Latino people (hereinafter, Hispanic people) live in the United States.¹ As of 2017, Hispanic people composed 17.6% of the US population, which is expected to increase to 25.5% of the US population by 2060.^{1–3} Substantial social inequities exist between non-Hispanic White people and Hispanic people living in the United States, including higher levels of poverty and lower levels of educational attainment.^{4–8} Hispanic people also have substantial health inequities, such as less access to health care and disease prevention services

and lower rates of adult vaccination coverage, than the general US population.^{6,9,10} Non-US-born Hispanic people generally

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have lower access to health care and vaccination coverage than US-born Hispanic people.^{4,6,9} Hispanic males living in the United States have an average age at death of 62.2, whereas non-Hispanic white males have an average age at death of 72.0.¹¹

Despite these inequities, Hispanic people have better outcomes for some health indicators than non-Hispanic White people in the United States. For example, they have lower death rates for 9 of 15 leading causes of death across the US population, a lower incidence of cancer and heart disease, and lower rates of current smoking.⁶ Conversely, Hispanic people have substantially higher death rates than non-Hispanic White people for 5 of 15 leading causes of death (chronic liver disease and cirrhosis, diabetes mellitus, homicide, essential hypertension, and hypertensive renal disease), a higher prevalence of obesity and diabetes, and higher rates of hepatitis B virus infection.^{4,6,8} Health indicators among Hispanic people differ substantially by Hispanic origin subgroup (eg, Mexican, Cuban), race, country of birth, and sex.^{6,12,13} However, available data are limited, given the inconsistent and inadequate collection of data on demographic characteristics to account for the diversity of Hispanic people in many national data systems.¹⁴

Limited access to health care and institutional capacity to address the needs of diverse Hispanic communities highlight the need to strengthen partnerships to provide public health approaches that are multimodal and culturally and linguistically appropriate.^{6,15} The 36.6 million Mexican people living in the United States represented 63.4% of the overall US Hispanic population in 2014.³ As such, collaboration with public health agencies and other institutions targeting this large sector of the Hispanic population is of public health importance.² Collaborative partnerships are a useful approach to improve health conditions of disadvantaged populations by means of culturally competent community engagement and use of resources that various community partners bring to such initiatives.^{16,17}

We highlight 3 collaborations between the *Ventanillas de Salud* (VDS) strategy and the Mobile Health Units (MHUs), which are initiatives of the Mexican government and US public health organizations to improve health conditions among Mexican people and other Hispanic people in the United States. We hope to raise awareness of viable models for partnerships that can be replicated or adapted by public

health organizations looking to improve their institutional capacity to reach Hispanic communities and people or other underserved populations. Although the VDS and MHU are tailored to meet the needs of Hispanic communities, they also reach other medically underserved demographic groups, such as American Indian people, particularly in rural areas.

Methods: A Collaborative Approach to Public Health

The Mexican consular network in the United States provides health outreach to Mexican people and other racial/ethnic minority groups living in the United States through the VDS or “Health Windows” strategy implemented on site, at Mexican consulates across the United States. The MHUs, a project of the Mexico Section of the United States–Mexico Border Health Commission, takes VDS services on the road, reaching additional people and communities while developing best practices and innovative public health programming. A unique aspect of the VDS/MHU approach is that it involves governmental and public health institutions from 2 countries.

We describe 3 projects that illustrate this community outreach initiative, the types of basic public health services and delivery methods they provide, and the collaboration between the VDS/MHU initiatives and the US public health agencies at the federal and local levels.

The VDS Strategy: A Binational Health Approach

The VDS strategy is a public health initiative of the government of Mexico that is guided and supported by the Ministry of Health and the Ministry of Foreign Affairs, coordinated through the Institute of Mexicans Abroad via the consular network of Mexico in the United States, and operated by local nongovernmental organizations. The VDS strategy is a comprehensive preventive outreach model that leverages the Mexican consular infrastructure in the United States to connect medically underserved people with a network of partner organizations that provide health-related information and services. The VDS strategy improves access to primary and preventive health care services, promotes health awareness and healthy lifestyles, increases access to health insurance coverage, and establishes a medical home through information, education, on-site medical

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Table 1. Basic services provided by the *Ventanillas de Salud* (“Health Windows”) or Mobile Health Units, United States, January–December 2018^a

Service provided	No.
People receiving services	1 271 657
People attending orientation and information sessions ^b	2 051 685
Health screenings conducted ^c	1 873 219
Vaccines given	48 424
Health referrals	316 405
People enrolled in US health insurance	14 290

Abbreviations: MHU, mobile health unit; VDS, *Ventanillas de Salud*.

^aThe VDS and MHUs promote a comprehensive preventive outreach model that leverages the Mexican consular infrastructure in the United States to connect medically underserved people, such as Mexican nationals living in the United States, with a network of partner organizations that provide health-related information and services. VDS/MHUs improve access to primary and preventive health care services, promote health awareness and healthy lifestyles, increase access to health insurance coverage, and establish a medical home through information, education, on-site medical screenings, counseling, and referrals to quality health care facilities in a safe and friendly environment.

^bPeople could attend >1 information session; therefore, number is higher than total people.

^cPeople could be screened for >1 condition (eg, HIV, body mass index, glucose, skin cancer); therefore, number is higher than total people.

screenings, counseling, and referrals to quality health care facilities in a safe and friendly environment (Table 1).¹⁸ The VDS strategy is implemented in the waiting rooms of 49 Mexican consulates across 24 US states (Figure).^{19,20} The VDS sites are operated by local US organizations, such as community-based organizations, health care establishments, and universities, which are collectively known as “lead agencies.” The lead agencies receive strategic support from a broad range of government, health care, academic, public health, and community organizations, such as federally qualified health centers, to develop local and regional networks of health information outreach in Spanish, medical screenings, and other services. Following pre-established guidelines, lead agencies are legally in charge of receiving funding, managing resources, supervising staff members, and coordinating with other organizations at the local level.

In addition to the 51 lead agencies, the VDS network reported partnerships with more than 600 local and national US agencies and organizations, including the US Department of Health and Human Services, Office of Minority Health to promote the national influenza vaccination campaign, and the American Cancer Society to promote cancer awareness and preventive screenings.^{18,21} The VDS strategy has a multiplying effect on the number and variety of services provided to the communities reached by each VDS site.

A Multimodal Approach for Public Health Services

From 2013 through 2019, the VDS served 10.5 million people, most of whom were of Mexican origin, at consulate locations throughout the United States.²¹ Although the VDS outreach method at the consulates has been successful, VDS providers soon recognized the need to reach populations that were not visiting the consulates. In 2016, the MHU strengthened and expanded VDS services to people from rural communities and marginalized populations that had difficulty visiting the consulates. Eleven MHUs operating in 9 states (Figure) served more than 115 000 people from their launch in February 2016 through December 2019.²¹ Together with the VDS strategy, MHUs can promote binational and national initiatives and activities at the local level, thereby allowing for appropriate geographic and community adaptations.

A Binational Approach to Public Health: 3 Projects

The following 3 projects illustrate current binational collaborations among VDS/MHUs, the Centers for Disease Control and Prevention (CDC), and the University of Arizona (UA). Data collection in Project 1 was overseen by the CDC Human Subjects Review Board and authorized by the Office of Management and Budget.

Project 1: Addressing Occupational Health Inequities Among Hispanic People

Since 2008, the VDS has collaborated with CDC’s National Institute for Occupational Safety and Health (NIOSH)¹⁶ to address persistent occupational health inequities affecting Hispanic people.^{22–25} This decade-long collaboration began with a pilot study, in 2 consulates, to determine the most effective way of providing workers with occupational safety and health (OSH) information and resources using the existing VDS infrastructure.^{26,27} Exit interview data from the pilot study (N = 364) showed that most respondents saw the materials, trusted the information, and were likely to act on it (unpublished data, NIOSH, 2020). The flexibility of the VDS infrastructure permitted a targeted vetting of the prevention materials and their national dissemination once they proved to be effective.

This initial pilot study has developed into a multifaceted program of interventions, public health investigations, and institutional capacity building. The collaboration has resulted in original studies by external partners,²⁸ incorporation of OSH-related items into existing data collection systems (eg, the VDS health intake form), trainings for 378 consulate staff members and VDS health promoters on OSH topics, and an outreach model adapted by the American Academy of Dermatology to screen for and prevent skin cancer among Hispanic people (Table 2).

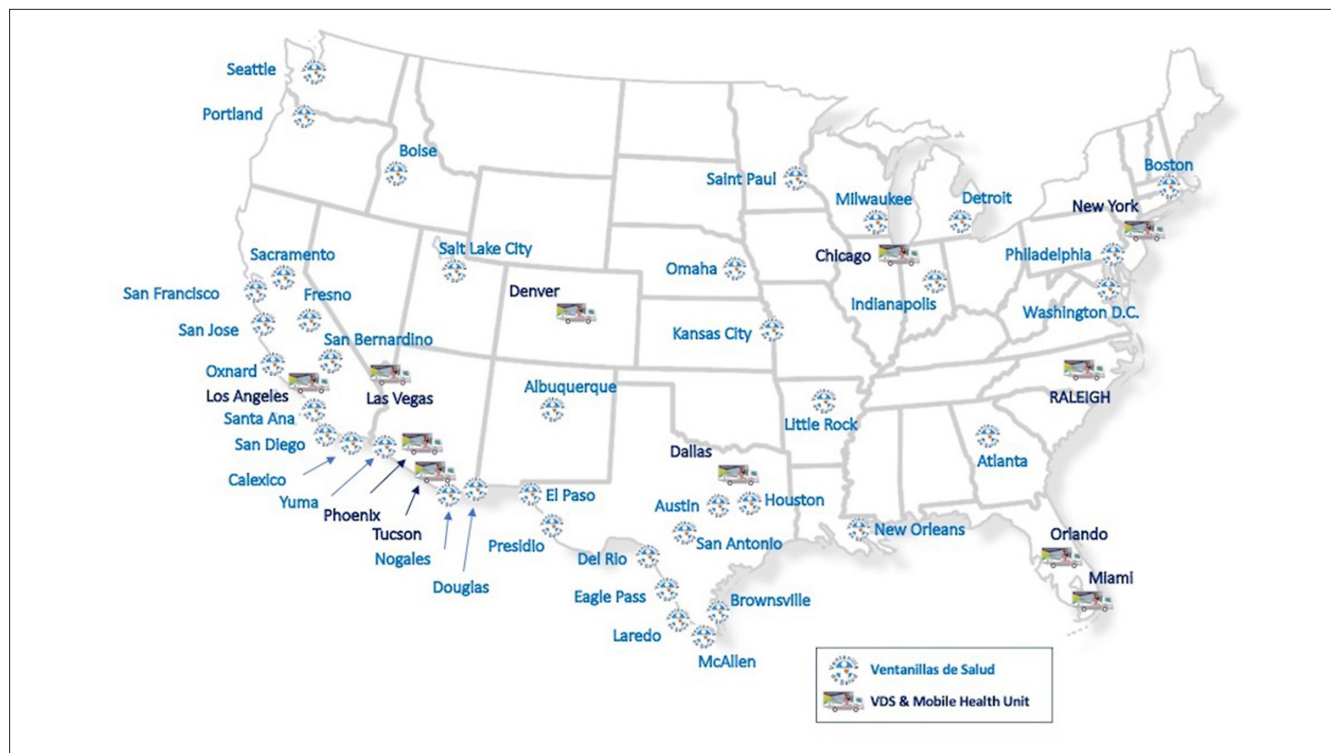


Figure. Locations of the 49 *Ventanillas de Salud* (VDS) (“Health Windows”) and the 11 Mobile Health Units (MHUs) operated by the Mexico Ministries of Health and Foreign Affairs across the United States. The VDS/MHUs promote a comprehensive preventive outreach model that leverages the Mexican consular infrastructure in the United States to connect medically underserved people, such as Mexican nationals living in the United States, with a network of partner organizations that provide health-related information and services. VDS/MHUs improve access to primary and preventive health care services, promote health awareness and healthy lifestyles, increase access to health insurance coverage, and establish a medical home through information, education, on-site medical screenings, counseling, and referrals to quality health care facilities in a safe and friendly environment.

All projects are designed to contribute to the larger objective of establishing a long-term, institutional relationship with the Mexico Ministries of Health and Foreign Affairs. The projects are also tailored to the existing infrastructure and activities at the VDS site. This approach facilitates the intervention’s integration into current consular and VDS activities, reduces the burden of implementation on the consular staff, and helps to ensure long-term adoption once the initial project is completed. A fundamental outcome of this innovative, long-term approach to partnership has been the institutionalization of OSH as a priority topic for the Mexican government’s health promotion efforts through consular work in the United States.

Project 2: Zika Virus Epidemic and Health Education Campaign

In 2016, VDS launched coordinated efforts along with the Assistant Secretary for Preparedness and Response’s (ASPR’s) Office of Emergency Management to increase knowledge about Zika virus and draw attention to the urgency and risk of Zika virus for Hispanic people on both sides of the US–Mexico border. A series of capacity-building activities on the risks

posed by Zika virus began with a targeted group of VDS sites along the US–Mexico border. Spearheaded by ASPR’s Office of Emergency Management and CDC’s Division of Global Migration and Quarantine, United States–Mexico Unit (USMU), this effort was the first to coordinate an urgent response to the introduction of Zika virus in the Americas.²⁹

Mexico is the number-one travel destination of US residents, particularly those of Mexican origin,³⁰ making outreach and education on Zika prevention an important component of the domestic response. Subsequently, USMU expanded these efforts to the entire VDS network with a comprehensive series of trainings and distribution of printed materials. USMU and Zika experts from CDC conducted 3 trainings to teach VDS community health educators about Zika preventive measures, with a focus on travelers visiting friends and relatives. A total of 61 VDS educators and staff members from 33 Mexican consulates in the United States participated in trainings and learned about CDC’s web-based resources on Zika virus.

USMU regularly shared with VDS leadership and staff members detailed maps of Zika incidence in Mexico, jointly developed by CDC and the Mexico Ministry of Health. In addition, USMU shared with VDS leadership and staff

Table 2. Major public health services of the *Ventanillas de Salud* (“Health Windows”)/Mobile Health Units and 3 binational (United States–Mexico) collaborative projects to advance the health of Hispanic people living in the United States^a

Public health outreach initiative	Implementation date (years in service)	Location	Population served and no. of people served	Outcomes (services provided)
VDS	2003 (16 y)	49 locations nationwide at Mexican consulates in the United States ^b	Mexican people, other Hispanic people, and other racial/ethnic minority groups (10.5 million people from 2013 through 2019) ^c	Basic health screenings (eg, blood pressure, electrocardiogram, cholesterol, and diabetes screening); bilingual health information; influenza vaccines
MHUs	2016 (3 y)	11 states across the United States ^b	Mexican people, other Hispanic people, and other racial/ethnic minority groups (115 461 people from February 2016 through December 2019) ^d	Remote access to care (eg, rural communities); basic health screenings
Project 1: occupational health program in collaboration with the National Institute for Occupational Safety and Health, CDC	2008 (11 y)	49 locations nationwide at Mexican consulates in the United States	Reached VDS clients in all 49 consulates; trained ≥300 VDS health promoters at 6 seminars and 78 consular staff members via 2 webinars	Occupational safety and health information and resources
Project 2: Zika virus education campaign by the United States–Mexico Unit of the Division of Global Migration and Quarantine, CDC	2016-2017 (2 y)	33 locations for seminars and 50 locations for printed materials nationwide at Mexican consulates in the United States	VDS educators/promoters and Mexican and other Hispanic travelers visiting friends and relatives (61 VDS educators; potential dissemination of messages to 33 VDS sites serving 990 000 people) ^e	61 VDS educators and consulate staff members participated in trainings (in-person seminars, conference calls, and a webinar) and were provided with printed materials with key messages on Zika prevention
Project 3: MHU serviced by the University of Arizona Mel and Enid Zuckerman College of Public Health	2016 (3 y)	Arizona	Mexican people, other Hispanic people, and American Indian people (78 419 services for 16 342 people); more than 300 University of Arizona students and faculty participated in experiential learning through the MHU.	Remote access to care (eg, rural and native communities); basic health screenings

Abbreviations: CDC, Centers for Disease Control and Prevention; MHU, Mobile Health Unit; VDS, *Ventanillas de Salud*.

^aThe VDS and MHUs promote a comprehensive preventive outreach model that leverages the Mexican consular infrastructure in the United States to connect medically underserved people, such as Mexican nationals living in the United States, with a network of partner organizations that provide health-related information and services. VDS/MHUs improve access to primary and preventive health care services, promote health awareness and healthy lifestyles, increase access to health insurance coverage, and establish a medical home through information, education, on-site medical screenings, counseling, and referrals to quality health care facilities in a safe and friendly environment.

^bAs of January 2019, a total of 49 VDS locations were in the network.

^cAs reported by the VDS.²¹

^dAs reported by the *Juntos por la Salud*.²²

^eBased on number of people served by 33 VDS locations; two-thirds of the users reported by VDS.²¹

members social media links with Zika prevention messages and copies of printed educational materials in Spanish and English. Through informal discussions, project leads from the United States and Mexico concluded that this collaboration was timely, useful, and effective in disseminating culturally and linguistically appropriate information to priority populations during an international epidemic. USMU plans to enhance and evaluate this partnership as a key strategy when responding to future public health emergencies.

Project 3: Improving the Health of Hispanic People Living in Arizona

The Mexican government’s efforts to expand VDS services to communities and populations beyond regular visitors to the consulates yielded the MHU pilot project. Launched in 2016, the pilot project is led by the UA Mel and Enid Zuckerman College of Public Health and facilitates the 3 core activities of the university: teaching, research, and service. Since 2016, more than 300 medical, public health, nursing, pharmacy, and undergraduate students and faculty have participated in the

experiential learning opportunities provided by the MHU. The MHU provided 78 419 services for 16 342 people in Pima and Maricopa counties from June 2016 through December 2019. The MHU places students in a community setting unlike the controlled environment of a classroom. Students strengthen their academic preparation in community health, learn about the neighborhood and community in context, and learn about the importance of culture and language in health care delivery.

The MHU takes the personalized and holistic approach to community outreach of the VDS on the road. By literally meeting community members where they are, the MHU provides some of the most geographically isolated and socially marginalized populations in Arizona with tailored health care services based on their needs. The MHU complements the efforts of the existing public health and VDS infrastructure, which may not accommodate people who live in remote areas or offer services after hours or on weekends.

The MHU collaborates with and receives funding from the Arizona Department of Health Services to address access-to-care issues related to hypertension and type 2 diabetes, addressing 2 priority areas for the state and CDC.

Most recently, UA is promoting Hispanic representation in social and biomedical research through participation in the All of Us research program.³¹ The All of Us research program is a longitudinal precision medicine research effort that examines individual differences in environment, lifestyle, and genetic makeup.³¹

Outcomes

Partnering with the VDS/MHU has allowed the public health agencies involved to strengthen and maximize outreach to Hispanic people in the United States, particularly those not reached by traditional methods (Table 2). These 3 projects are part of the VDS/MHU's long track record of serving substantial numbers of underserved Hispanic people. The VDS/MHU offers an extensive, national infrastructure and a unique opportunity to link some of the most underserved people and communities in the United States with local health care providers and national public health organizations dedicated to improving access to health care services and eliminating health inequities.

Lessons Learned and Opportunities

A strength of the VDS/MHU approach is its reliance on components that are consistent with programmatic characteristics of services (eg, linguistic and cultural tailoring, service delivery at gathering places) that reach marginalized communities with public health interventions. In addition to these characteristics, the VDS/MHU model incorporates innovation. Specifically, Mexico's innovative expansion of the traditional role of consulates to include health promotion allows the program to leverage the existing consular infrastructure to serve communities nationwide.^{19,20} Another innovation is the ability to collaborate with local partners to leverage external funds to design and implement interventions tailored to communities' needs. Although this hybrid model of national coordination combined with local rootedness and flexibility offers much promise, one weakness is a lack of standard evaluation to understand its impact longitudinally at the national level. Although data on the number of services provided at each VDS/MHU site are routinely collected, empirical evidence is needed to identify successful elements of the model's functioning, scope, and impact, which would facilitate future adaptation and replication.

The VDS/MHU network has recently integrated a centralized, electronic database that collects information on socio-demographic characteristics, health-related variables, and use of services at each VDS/MHU site. These data offer opportunities to inform programmatic priorities, identify locations with the greatest level of outreach and impact, and systematically evaluate programs at regional and national levels. Many clients of the VDS/MHU experience stigma related to racism and xenophobia, which further threatens

their health and jeopardizes the overall well-being of the nation. The VDS/MHU sites not only provide health-related services but also offer a sense of belonging, which can help people overcome social stressors and stigma. Innovative programs such as the VDS/MHU, which incorporate proven public health approaches to working with racial/ethnic minority communities, can help bridge the gap between the community and the existing public health infrastructure.

As highlighted by the 3 projects, the VDS/MHU offers opportunities for collaboration across a binational network of public and private partners, while diffusing public health messages and services to socially and linguistically isolated populations. Potential expansion of collaborative public health efforts may include research, emergency preparedness and response, dissemination of educational materials, and capacity building. The VDS/MHU model is a promising intervention using an innovative collaborative approach that should be further assessed to better understand its impact on both the US Hispanic population and the public at large in the locations where it is implemented.

Authors' Note

The findings and conclusions in this article are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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