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Use of Health Services Among Vineyard and Winery Workers in the North Willamette Valley, Oregon

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Abstract Although agricultural work is considered one of the most dangerous and physically demanding jobs, the majority of farmworkers remain vulnerable to disease and injury, while use of health services is limited. The present study analyzes the use of health care services among vineyard and winery workers in the North Willamette Valley, Oregon. Data from 513 foreign-born workers collected during the summer of 2009 by *¡Salud!* Services, was used to test the influence of relevant predisposing and enabling factors of the Behavioral Model of Health Care Utilization among Vulnerable Populations. The majority of participants were males (87%) with an average age of 33 years. Over half of the workers were either married or living with a partner (54%) and had children living with them (58%). Very few spoke English (5%) and only a third had more than 6 years of formal education. Two-thirds of workers (65%) had a full time job and shared housing (67%). Only one of every five workers (19%) had health insurance. Multivariate analyses show that use of health services in the past 2 years is more likely among females, those who have children, have more than 6 years of education, work full time, are insured, and are currently attending school. This study provides further insight for health care provision initiatives to reduce the many barriers faced by farmworkers and their families.

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Introduction

In 2002, immigrants constituted 78% of the farmworker labor force in the United States [1]. An enumeration study estimated that in that same year there were 174,484 farmworkers and their dependents in Oregon [2]. Over $1.4 billion in economic activity is related directly or indirectly to the Oregon wine industry, with a net contribution estimated to be $996 million [3]. Although agricultural work is considered one of the most dangerous and physically demanding jobs, the majority of farmworkers remain vulnerable to occupational and other related risks [4–6]. Many of them are exposed to pesticides and harsh working conditions that pose serious harm to their overall health [7–9]. A variety of factors, including limited English proficiency and undocumented status (and subsequent fear of deportation), limit their ability to access health and other social services such as Medicaid, WIC or food stamps [10, 11]. In 2002, the National Agricultural Workers Survey (NAWS) showed that only 23% of farmworkers had some form of health insurance. Less than half of them (46%) received this benefit through their employer [1]. Because of limited access to health services, workers may be seen only when their health issues are severe. More than 40% of farmworkers who visited health clinics in Oregon had multiple and complex health problems [12]. Few studies have analyzed the use of health care services among farmworkers [10, 13, 14], and none, to our knowledge, among wine-industry workers more specifically.

The present study analyzes the use of health care services among vineyard and winery workers in the North Willamette Valley, Oregon.

Methods

Using the Behavioral Model of Health Care Utilization among Vulnerable Populations (BMVP) as our theoretical framework, a secondary data analysis of 513 foreign-born vineyard and winery workers was conducted. Data was collected by *¡Salud!* Services staff as part of their scheduled summer 2009 mobile health screenings. The *¡Salud!* Services program is a collaborative effort between Tuality Healthcare and participating vineyards and wineries. For almost 20 years, they have provided primary health care services and referrals to the workers and their families [9]. The analysis of de-identified data was approved by the Western Oregon University Institutional Review Board.

In addition to the predisposing, enabling, and need factors of the original model [15], the BMVP [16] can consider factors relevant to vulnerable populations such as farmworkers [13]. Predisposing variables included age, sex, marital status, having children [17], speaking English, years of education (more than 6) [13], and working full time. Enabling factors included health insurance, school enrollment, and sharing housing [18]. Use of health services during the previous 2 years was the outcome variable. Similar to Hoerster et al. [13], need factors could not be assessed due to existing data limitations.

The analysis was conducted using the Predictive Analytics Software (PASW). Summary statistics was run for all study variables. A multivariate logistic regression was applied to determine the independent association between predisposing and enabling variables and the use of healthcare services. All predictors, except for age, were entered as dummy variables. A two-step modeling process was conducted. Model 1 included predisposing factors while model 2 included both predisposing and enabling factors.

Results

A summary of the data is presented on Table 1. The sample consisted of mostly young males (87% with an average age of 33 years). Over half of the workers were either married or living with a partner (54%) and had children living with them (58%). In comparison, the 2001–2002 NAWS found 63% of workers had minor children [1]. Very few spoke English (5%) and only a third had more than 6 years of formal education; which is similar to a recent study among California farmworkers [13]. Two-thirds of workers (65%) had a full time job.

Only one of every five workers (19%) had health insurance. Two-thirds of workers (67%) shared housing. This was similar to previous research among farmworkers in North Carolina which found that 69% had more than one person per room (excluding bathrooms and kitchens) [18]. Only one in twenty workers was currently enrolled in school. Multivariate logistic regression (Table 2) showed that females, having children, more than 6 years of education and working full time were significant predisposing factors related to use of health services. Female workers were 3.5 times more likely to use health services in the

Table 1 Summary statistics of predisposing, enabling and utilization variables among vineyard and winery workers in the North Willamette Valley, Oregon ($n = 513$)

	Mean (SD)	% (*n*)
Predisposing factors		
Age	33.2 (10.74)	
Female		12.7 (65)
Married/living with a partner		54.2 (278)
Has children		57.5 (295)
Speaks english		5.1 (26)
Years of education (>6)		35.3 (181)
Works full time		64.5 (331)
Enabling factors		
Has health insurance		16.6 (85)
Currently enrolled in school		4.5 (23)
Shares housing		66.7 (342)
Health care utilization		
Visited a clinic (last 2 years)		40.7 (209)

Table 2 Multivariate logistic regression model of predisposing and enabling factors associated with use of health services among vineyard and winery workers in the North Willamette Valley, Oregon ($n = 504$)

Variables	Odds ratio	90% Confidence interval	*P*-value
Predisposing factors			
Age	1.01	(0.99–1.03)	0.345
Female	3.49	(2.09–5.82)	0.000
Married/living with a partner	1.08	(0.75–1.54)	0.737
Has children	1.60	(1.10–2.33)	0.041
Speaks english	1.54	(0.73–3.24)	0.480
Years of education > 6	1.44	(1.01–2.05)	0.089
Works full time	2.08	(1.44–2.99)	0.001
Enabling factors			
Has health insurance	1.80	(1.17–2.78)	0.025
Currently enrolled in school	2.66	(1.22–5.79)	0.039
Shares housing	1.12	(0.79–1.58)	0.588

The sample was reduced from 513 to 504 participants due to missing data for *age*. The Nagelkerke Pseudo R2 statistic showed that the final model (shown here) was a better fit than the predisposing factors-only model (R2 = 0.255 vs. R2 = 0.120, respectively)

previous two years while those with children in the household were 60% more likely. If they had a full time job, workers were two times more likely to use services while having more than 6 years of education increase the likelihood by 44%. Two enabling factors were significantly related to use of services. Workers were more likely to use health services if they had health insurance (80%) and were enrolled in school (2.7 times).

Discussion

This study is among the few to assess factors affecting the use of health services among farmworkers. We found that, among a convenience sample of vineyard and winery workers in the North Willamette Valley, use of health services in the past 2 years was more likely among female workers, those who have children, have more than 6 years of education, work full time, are insured, and are currently attending school. This last factor is interestingly significant given that only 5% of workers said they were enrolled in school. We interpret this result as indicative of a stronger process of social learning/diffusion of new health-related ideas and resources when workers are part of the US system [19]. Similar to a recent study in California [13], we found that speaking English was not a statistically significant barrier to use. This may be related to the growing bilingual services provided to Spanish-speaking farmworkers via migrant health centers and other related programs. Nevertheless, the lack of health insurance, low wages and migration status make it difficult for farmworkers to afford health care services [10]. Vineyard and winery workers in this sample showed slightly higher insurance rates (19%) compared to another study among farmworkers (14%) in Oregon [4]. However, it is within national averages of 15% in 2000 [20] and 23% in 2002 [1]. In California, 27% of male workers (31% among females) had some form of coverage [11]. In a recent study in Washington state, 20% of workers had health insurance for themselves and 33% had health insurance for all members of their family [21]. In other words, between 77 and 85% of farmworkers are uninsured, compared to "only" 40% among low-income adults in the US [22] or 30% in Oregon [23]. This is a major barrier for these workers and their families to access health care services. In addition, issues such as lack of documentation, working conditions, limited number of facilities and providers, non-flexible working schedules or overburdened clinics reduce utilization of needed services even further [10, 24, 25].

In our sample, 34% of participants had not visited a clinic in the past 2 years. A recent analysis of the 2002 National Agricultural Workers Survey (NAWS) in California found that almost half of the farmworkers sought health care services during the previous 2 years [13]. The California Agricultural Workers Survey (CAWS) found that 25% of men (13% among women) had never visited a clinic [11]. In the study by Farquhar and colleagues in Oregon (2008), half of the workers surveyed had never been to a health clinic in Oregon. An even higher percentage of workers in Washington (66%) said they had not been to a doctor in the past year. Although there may be the perception that workers do not access health services because they may not need it, evidence suggest otherwise. Both the Farquhar and Feldman studies found lower ratings of self-reported health: 65% of workers in Oregon and 42% of workers in North Carolina rated their health as poor to fair, compared to 20% among Latinos or 15% in the general population [26].

The 2010 Affordable Care Act increases funding for community health centers (12.5 billion over 5 years), a primary source of health care services for immigrant workers and their families. However, undocumented workers are not eligible for insurance subsidies or even for purchasing insurance with their own money. This will have a negative impact not only on undocumented immigrants but also on their documented family members, particularly children. As Oregon and other states move forward to implement health reform, policymakers should consider proposals to expand coverage to all farmworkers. This study provides further insight for health care provision initiatives to reduce the many barriers faced by vineyard/winery farmworkers and their families. Such an effort will require the concerted efforts of state and local governments, the wine industry, worker's unions, and health care providers, to protect the health status of this vulnerable population.

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