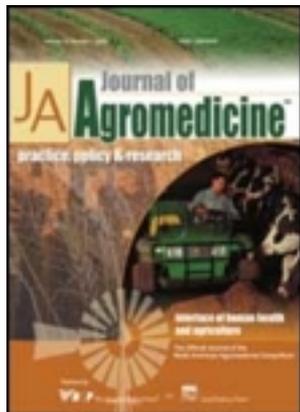


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### Health Status and Needs of Latino Dairy Farmworkers in Vermont

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# Health Status and Needs of Latino Dairy Farmworkers in Vermont

Daniel Baker, PhD  
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**ABSTRACT.** Vermont is a new Latino destination where many Spanish-speaking migrants have found work on dairy farms. One hundred twenty Latino workers were surveyed on 59 Vermont dairy farms to develop a demographic profile and evaluate their self-assessed health status and barriers to care. The study found, similar to other studies, the majority of workers were young, male Mexicans. However, the workers in this study, as compared to others, originated farther south in Mexico and there were significant regional differences in educational attainment. Workers defined health in terms of their ability to work and the majority believed themselves to be in good health. The majority felt that moving to the United States has not changed their health status. The most common health issue reported was back/neck pain, followed by dental and mental health issues. Workers are both physically and linguistically isolated and reported isolation as the most challenging aspect of dairy farm work. Fear of immigration law enforcement was the primary barrier to care. Community-based initiatives, including partnerships with colleges and universities, outreach to farm employers and the adoption of “bias-free policing” are strategies that can increase access to health care for Latino dairy farmworkers in the United States.

**KEYWORDS.** Dairy employees, health surveys, Hispanic, Latino, Spanish-speaking workers

## *INTRODUCTION*

The Latino population in the United States has rapidly grown for decades and is now the country’s largest minority. This growth has created “new Latino destinations” in many rural regions of the United States that formerly had few Latinos.<sup>1,2</sup> Nine states and 912 counties saw their Latino populations double in size between

2000 and 2010.<sup>3</sup> This demographic shift provided increasing numbers of Latino workers in the dairy industry, which had previously hired relatively few foreign-born laborers.<sup>4</sup>

Labor shortages on dairy farms have led to increased hiring of Latino workers and currently 41% of dairy farms in the United States depend on foreign labor, primarily from Mexico.<sup>5,6</sup> Latino workers arrived in the northeastern

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United States at the end of the 1990s to address a shortage of dairy farmworkers.<sup>7</sup> Since that time they have become an important part of the dairy labor force. Jenkins et al. project that within 5 years 53.2% of all workers on large dairy farms and 18.1% of all workers on small dairy farms in Vermont, New York, and Pennsylvania will be Spanish-speaking.<sup>8</sup>

The state of Vermont is a new Latino destination that saw its Latino population grow 24 times faster than its overall population between 2000 and 2010; the state's two largest agricultural counties experienced 73% and 111% increases.<sup>3</sup> A large share of this growth is due to demand for labor on Vermont's dairy farms. Vermont is the 12th largest milk producer in the United States and dairy farms accounted for 65.4% of total farm receipts in 2011.<sup>9</sup> The Vermont Agency of Agriculture estimated that migrant workers were involved in at least 50% of the total milk produced in the state in 2007.<sup>10</sup> Although relative to other states Vermont's Latino population is small, it represents a significant demographic shift for a state that remains 98.5% non-Latino and where Spanish is rarely spoken.

Little is known about the health of Vermont's new Latino population. Radel et al.<sup>11</sup> estimate that 90% of Mexican farmworkers in Vermont do not have documentation and Latino workers are rarely seen off-farm. Public concern about how Latino workers were being treated was raised in 2009 when a young Mexican worker was killed in an accident on a Vermont dairy.<sup>12,13</sup> This accident highlighted the lack of objective data about how Latino dairy workers were faring in Vermont and led to this investigation of migrant workers' self-assessment of their health and barriers to care on Vermont dairy farms.

The injury or death of a farm worker, although tragic, is not uncommon in the United States. Although fatalities have declined in many industries, the fatality rate in the agricultural sector increased between 1996 and 2006, and agriculture remains one of the most dangerous industries in the United States.<sup>14,15</sup> Latino migrant workers are an important component of the agricultural labor force, with the number of Latino farmworkers rising since the end of

World War II; estimates of their numbers nationally range from 43% to as high as 80% of all agricultural workers.<sup>15</sup> Accurate estimation is made difficult by the particular characteristics of this group, including their mobility, language barriers, and socioeconomic marginalization.<sup>16</sup>

Despite their importance to the U.S. farm economy, until the last decade there was little research investigating the health of hired farmworkers in the United States.<sup>17</sup> Recent studies of Latino migrant crop workers have found workers suffer from a number of work-related illnesses and diseases. Health issues experienced by Latino workers include skin diseases, musculoskeletal problems, pesticide exposure, and infectious diseases, such as tuberculosis and sexually transmitted diseases.<sup>15,18,19</sup> Grzywacz estimates that between 20% and 50% of migrant farmworkers have "poor mental health," evidenced by high levels of depression or anxiety.<sup>20</sup> Factors negatively affecting mental health include isolation and loss of social capital, inadequate housing, and concerns about lack of legal status.<sup>21,22</sup>

There is evidence that the place of origin of foreign-born Latino workers is changing,<sup>23</sup> potentially affecting the cultural, linguistic, and socioeconomic characteristics of Latino migrants. Immigrants from different cultures within Latin America may have different needs and approaches to health care. For example, migrants from indigenous cultures have been found to experience higher levels of mental health issues compared to "mestizo" migrants from the same country.<sup>24</sup>

Barriers to care commonly faced by Latino farmworkers include low educational attainment, cost, transportation, language, fear of law enforcement, and cultural barriers.<sup>18,21,25</sup> Cultural barriers may contribute to findings that Latinos are likely to delay seeking health care relative to other ethnic groups.<sup>26</sup> These may be exacerbated when undocumented workers are concerned about encountering immigration law enforcement if they leave the farm.<sup>15</sup>

Dairy farming offers its own unique set of work-related hazards yet there are few existing studies concerning the health status of Latino dairy workers.<sup>27</sup> Dairy workers, in general, face risks associated with working with large

livestock, such as being kicked or crushed by cows or slipping on barn floors.<sup>8,16,27,28</sup> Milking cows requires close contact with cattle and that job in particular results in the greatest injury to workers on dairy farms.<sup>29</sup> Additionally, asthma and chronic bronchitis can result from breathing organic dust from feed.<sup>30</sup>

A small number of studies have shed light on the health status of dairy farmworkers in the Northeast. The Latino dairy labor force in New York State was profiled in a demographic study of 111 Latino workers by Grusenmeyer and Maloney in 2005.<sup>31</sup> They found that 75% of Latino workers were from Mexico, 84% were under 30 years of age, and 25% had completed secondary school. Stack et al. used mail surveys to contact dairy farm employers in New York, Vermont, and Pennsylvania. Of the 294 dairy farmers who participated in the study, 22.5% hired Latino labor.<sup>4</sup> Researchers asked farmers about the health of workers and found that Latino workers tended to be employed in farm tasks that were rated more hazardous than those performed by English-speaking workers, although work days lost to injury was not significantly different between English-speaking and Spanish-speaking workers.

The Vermont Department of Health sponsored a study of Latino migrants in two counties in 2007. Forty-nine workers were interviewed on 21 farms to characterize the "typical" health status of a Latino migrant and assess the barriers to obtaining health care. The study found that worker's health was similar to that found in national studies of migrant health.<sup>32</sup> Primary care during childhood was inconsistent; it was not clear that vaccinations had been completed or were up-to-date. Additionally, workers had not been screened for tuberculosis and had very limited access to dental care. Common ailments were skin problems, musculoskeletal pain, and injuries typically related to dairy work.<sup>32</sup>

This study has three primary objectives: to profile the demographic characteristics of this new population of Latino workers in Vermont and compare them to other regional and national trends; to evaluate the health of Latino dairy farmworkers through self-assessments; and to assess the barriers to care encountered by these

workers and consider options that may reduce these barriers.

## METHODS

Data for this study are drawn from two surveys conducted in Vermont between 2009 and 2011. The first was a survey conducted in six northeastern counties in Vermont in 2010, an area frequently referred to as the Northeast Kingdom (NEK). This survey, referred to in this paper as the NEK Migrant Health survey, interviewed 70 workers on 24 dairy farms and specifically sought information about health issues and needs of Latino migrant workers. The second survey, referred to here as the Vermont Dairy Workforce survey, focused on dairy labor force development and was conducted throughout the state of Vermont during 2009 and 2011. This survey includes 50 respondents from 35 farms throughout the state. The two surveys overlapped geographically but did not interview the same subjects. Both surveys asked similar demographic questions while also asking questions unique to that survey. Data were entered and analyzed using SPSS 19 (SPSS, Chicago, IL). Categorical variables were compared using Pearson chi-square tests and interval variables were evaluated using *t* tests with a 95% confidence interval. Results from both surveys are reported in this paper, as together they provide a more comprehensive understanding of the health status and barriers to care faced by Latino dairy workers in the state than would each survey reported individually. To evaluate whether the populations surveyed in the two instruments were similar, respondents were compared using *t* tests and cross-tabulations as appropriate.

Nonprobability sampling was used to select potential participants using purposive sampling techniques given the difficulty of recruiting migrant workers. Purposive sampling techniques have been used in several recent studies of Latino migrants.<sup>25,26,33,34</sup> A list of farms likely to hire Latino workers was developed in consultation with agencies involved in agricultural development in the state and served as the sampling frame for the study. This technique is appropriate for this study given its purpose to assess migrant workers in a specific region of

Vermont, as well as the difficulty and expense of seeking to randomly identify potential participants within a rural area with a dispersed population of workers.

Participants in both studies had to meet certain criteria in order to be considered for inclusion in the study. The criteria used for screening the participants as follows: current employment on a dairy farm, that the participant considered him/herself to be a Latino migrant worker, that they were over 18 years old, that they were willing to participate in the study, and that they were fluent in either English or Spanish.

The research methodology for both studies was reviewed and approved by the University of Vermont's Institutional Review Board. The surveys were conducted on the farm where the worker was currently employed. Participants were interviewed in a private area to ensure privacy and confidentiality. Both surveys were conducted verbally in Spanish by bilingual interviewers and each lasted an average of 30 minutes.

## RESULTS

### Worker Demographics

Latino workers in Vermont are young, mostly from Mexico, and primarily male. No differences were found between respondents in the two surveys with regard to gender, age, or marital status (Table 1).

Nearly all Latino dairy workers surveyed were from southern Mexico, along with a small number of Guatemalans and Mexicans from northern states. There was a tendency for farms to have workers originating from the same region (Table 2). Eighty-five percent of all farms surveyed had all of their workers originating from the same state in Mexico. Similarly, all of the workers originating from Guatemala were found working on a single farm. Nine farms had workers from more than one Mexican state. Nearly all workers were from states in the southern half of Mexico.

Mexican state of origin was a significant factor in the educational level of Latino dairy workers. Among the 120 Latino workers surveyed 46.7% had less than a 9th grade educational

TABLE 1. Latino Migrant Worker Demographics

	NEK Migrant Health ( <i>n</i> = 70)	Dairy Workforce ( <i>n</i> = 50)	Combined ( <i>n</i> = 120)
Gender (% male)	91%	96%	93%
Median age	28	24	26
Nationality			
Mexican	93%	100%	96%
Guatemalan	7%	0%	4%
Primary language			
Spanish	89%	92%	90%
Indigenous (excluding Mixteco)	11%	4%	8%
English	0%	4%	2%
Currently married	57% (15% living with spouse)	52% (23% living with spouse)	55% (18% living with spouse)
Have children	76%	62%	71%
Less than 9th grade	30%	70%	47%*

\**p* < .05.

TABLE 2. Worker's Region of Origin

Origin of worker	<i>n</i>	%
Mexican State		
Chiapas	44	37.3
Guerrero	24	20.3
Veracruz	21	17.8
Tabasco	16	13.6
Other Mexican states	8	6.8
Guatemala	5	4.2
Total	118	100.0

level. However, migrants from Chiapas had significantly lower levels of education than all other migrants (*p* = .001,  $\chi^2 = 10.336$ ). Migrants from Chiapas reported that 65.9% had less than a 9th grade education, compared to 35.5% for all others from Mexico and Guatemala.

Workers have relatively little experience with U.S. farm work, with only 24.2% having more than 3 years of agricultural employment. More than one fifth, 22.5%, of those surveyed had held a job in agriculture for less than 1 year. Even in dairy, where the demand for labor is year-round and farmers prefer their workers to remain for longer periods of time, workers are mobile and

in the relatively short time they have been in the United States, they have worked on a number of farms. Among those surveyed, 50.8% had been on their current farm for no more than 1 year and only 8.3% for more than 3 years.

### *Latino Dairy Farm Tasks*

Latino dairy workers are nearly universally hired to work with cows in the barn. Among 119 workers, 91.6% were employed as milkers. Other common elements of their jobs included barn cleaning, feeding cattle, and care of young stock. Workers rarely did field work. The typical Latino worker surveyed worked a mean 64.5 hours per week ( $n = 120$ ,  $SD = 8.608$ ). The Workforce survey asked about hourly wages and workers reported a current median hourly wage of \$7.75 per hour ( $n = 50$ ). All of the Latino workers in the Workforce survey lived on the farm and received on-farm housing as an additional benefit and 98% had their utilities paid by their employers as part of their compensation package.

### *Health Status*

Seventy Latino workers were surveyed specifically about their health status and barriers to care. Workers consider themselves to be healthy and define health in terms of their ability to work. The most important characteristic of good health was “being able to work” (31.4%), followed by “not having a major disease” (28.6%). Half of all workers who were asked about their health status described themselves as being in “excellent” or “very good health.” The remaining 50% characterized their health as either “good” or “neither good nor bad.” When asked specifically about their health during the previous month, 87.1% said that they felt “very healthy” every day.

Following general questions about their overall health status, respondents were asked about their current and past experience with a specific list of health conditions. Table 3 summarizes the current health issues reported by at least 5% of respondents, as well as the extent to which respondents had experienced these ailments in the past ( $n = 70$ ). Age was a significant factor in the likelihood that a worker was experiencing

TABLE 3. Reported Health Conditions and Ailments in the NEK Migrant Health Survey

Condition/ailment	Currently experiencing		Experienced in past	
	<i>n</i>	%	<i>n</i>	%
Back or neck pains	10	14.3	9	12.9
Toothaches or dental issues	9	12.9	15	21.4
Depression or anxiety*	9	12.9	6	8.6
Allergies	8	11.4	8	11.4
Rashes or skin problems	7	10	11	15.7
Flu	5	7.1	28	40
Eye or vision problems	5	7.1	1	1.4
Gastrointestinal problems	4	5.7	10	14.3

Note.  $n = 70$ .

\*Originally asked as two separate categories.

current back or neck pain. Respondents over the median age of 28 were more likely to report that ailment than younger workers ( $p = .032$ ,  $\chi^2 = 4.613$ ).

Anxiety or depression was one of the major current health issues reported. Although not statistically significant ( $p = .066$ ), workers over the median age were more likely to be depressed than younger workers.

An indicator of how workers' health is affected by their work in the United States is to compare their perceived health in the United States compared to their home country. The responses to the NEK Migrant Health survey ( $n = 70$ ) found that for the majority, 57.1%, their health had not changed significantly since their migration to Vermont. For those whose health had changed, the direction of change was nearly split between those who felt healthier in the United States compared to those who felt healthier in their home country. Among the 22.9% who felt healthier in Vermont, better health care services and more economic resources were cited as positive factors accounting. Nineteen percent reported feeling healthier in their home country. Social and cultural issues, particularly isolation and distance from family, were factors that contributed to workers' perception that their health was worse in Vermont compared to their home country.

Most Latino workers have rarely used health services since arriving in the United States. More than three quarters of respondents, 75.7%,

said that the last health care they had received was in Mexico with the rest receiving health care in Vermont or another North American state. Among those who accessed health care in the United States, 88.5% were satisfied or very satisfied with the care they received ( $n = 26$ ). Only 2.9% of respondents said they had health insurance and none had dental insurance. When Latino workers were asked how they would pay for health care, 50% would pay in cash and 30% said their farm employer would pay for them.

When asked about the greatest barrier to health care they face (Table 4), 58.6% reported fear of encountering immigration law enforcement (“la migra”), followed by language (15.8%) and lack of transportation (12.9%). The majority of Latino workers, 81.4%, would ask their farm employer for assistance with transportation if they needed to go to a clinic.

How workers believe they would respond to a health care issue is influenced by how severe they perceive their illness or injury to be. Asked how they would respond to a minor health problem, 34.3% said they would go to a doctor, 34.3% said they would self-treat, and 17.1% said they weren’t sure and would ask their employer. If faced with a major health problem, 58.6% would go to a local clinic or hospital but nearly a quarter, 24.3%, said they would return to their home country for treatment.

### Workforce Survey

Given the responses to the health care survey, results collected on the statewide dairy workforce survey conducted in 2010 and

TABLE 4. NEK Migrant Health Survey: Barriers to Health Care Faced by Latino Migrant Workers

	<i>n</i>	%
Greatest barrier to care		
Fear of immigration law enforcement	41	59
Language barrier	11	16
Lack of transportation	9	13
Cost of care	4	6
Other	5	7
Total	70	100.0

Note.  $n = 70$ .

2011 provide additional insights into the situation and challenges facing Latino dairy workers in Vermont. In particular, it sheds light on communication challenges on the farm as well as elements of the social environment. With the exception of educational attainment, this group of workers was not significantly different than those interviewed on the health survey.

The Vermont Workforce survey found that few Mexican dairy workers speak English. Only 4% of Latino workers reported they speak English well, and 64% assessed their English as poor or very poor. Moreover, few Vermont farmers speak Spanish. Most workers, 68%, said that no one on the farm spoke Spanish. When asked about how they communicate with farm management, most Latino workers spoke with their employers in English, followed by the use of hand signals or demonstration (Table 5). Although this was asked as a multiple response question, only 4 out of 50 workers reported using multiple methods, with a mix between English and Spanish the most common. Considering the very low levels of English proficiency reported by the workers, on-farm communication can be a very significant barrier to care.

The NEK Migrant Healthcare survey found that anxiety or depression was among the primary health issues experienced by workers but did not ask about the factors that led to anxiety or depression among workers. Some insight may be gained by responses to a number of questions asked in the Workforce survey where 44% of

TABLE 5. Workforce Survey: Communication Methods Used Between Workers and Their Farm Employers

	Responses		% of cases
	<i>n</i>	%	
Speaking in English	28	50.0	53.8
Hand signals or demonstration	14	25.0	26.9
Speaking in Spanish	11	19.6	21.2
Translator	3	5.4	5.8
Total of all responses	56	100.0	107.7

Note. Number of respondents = 50. Individuals were permitted to report more than one communication method.

Latino workers reported that isolation was the most difficult aspect of working on the farm. Latino dairy workers rarely leave the farm, on average leaving just 1.4 times per month ( $SD = 2.34$ ). Asked what activities they did for recreation, 53.8% said nothing, 48.1% said they did nothing to meet social needs, and 59.6% said they did nothing to meet their religious needs. Most Latino workers maintain strong ties in their home country and do not intend to settle in the United States. When asked how long they intended to remain in the United States, the Latino workers anticipated staying in the United States for a mean of 2.1 years ( $SD = 2.36$ ).

### DISCUSSION

The results of this study found that Latino dairy workers in Vermont are generally young, male Mexicans who believe themselves to be healthy. The demographics of Latino workers are similar to those reported by farm employers in the Stack et al. 2006 study of dairy farmers in the Northeast.<sup>4</sup> In comparison to all U.S. noncitizen hired farmworkers, including both crop and livestock workers reported by Kandel, Latino dairy workers are younger, fewer are married, and on average they are better educated.<sup>15</sup> A number of factors could explain this difference, including the methodology used by the Current Population Survey, which tends to undercount migrant farmworkers who change residence frequently or the differences between crop and livestock workers. However, other data in our study, particularly the finding that 75.8% ( $n = 120$ ) of the Latino dairy farmworkers have worked in agriculture for less than 3 years, support the conclusion that the demographics of Latino dairy farmworkers in Vermont, and likely the Northeast, differ from those of the typical foreign farm worker employed in agriculture in the United States.

Latino workers in Vermont are from regions of Mexico that formerly sent relatively few migrants to the United States. This finding points to a larger shift in the demographics of Mexican farm labor migrants to the northeastern United States. For example, Massey et al. found that only 6.4% of Mexican migrants were from the southeast region of the country.<sup>23</sup> Our

study confirms the trend seen by Riosmena and Massey of greater migration from nontraditional sending regions in Mexico.<sup>35</sup> We found that in Vermont 68.7% of Latino workers ( $n = 118$ ) came from southeast Mexico and 20.3% from central Mexico.

The differences between states in Mexico have implications for health care histories and practices. Mexican states such as Chiapas and Guerrero have much higher numbers of indigenous Mexicans than more traditional sending regions in northern Mexico. Workers from Chiapas reported significantly lower levels of education compared to other Latino migrants. Lower levels of education among indigenous migrants have been found to correspond to greater prevalence of culture-bound mental health syndromes.<sup>24</sup> In addition, sending regions with higher levels of indigenous populations may present new stressors, such as prejudice by Mexicans against their indigenous countrymen.<sup>36</sup>

Latino workers on dairy farms primarily work with cows in the barn. Milking and caring for cows is one of the most hazardous jobs on dairy farms.<sup>4</sup> Few workers surveyed reported having experienced serious health problems, perhaps not unexpected given their relative youth and the short time they have worked in agriculture. The most commonly experienced health problems reported was some degree of musculoskeletal issues given the type of work in which they are involved. Although back and neck problems were more common in older workers and in most cases the injury did not lead to any lost days of work, addressing this problem early could prevent further degradation and eventually lost time at work, even for younger workers. On-farm health screening clinics may be able to identify specific musculoskeletal and direct workers to health clinics that can provide more detailed diagnosis.<sup>33</sup>

The prevalence of self-assessed anxiety and depression was one of the top three health issues reported by workers. Literature on Latino migrant health, as well as structural and situational stressors, suggests that mental health issues are likely more substantial than reported in this study. In a study of 288 Latino farmworkers in North Carolina,

Grzywacz et al.<sup>22</sup> found depressive symptoms in 25% of the crop workers studied, and that depression changed over the course of the crop season. Milkers on dairy farms have more routine and consistent work schedules and whether this furthers or hinders the development of mental health problems is an area for further research. Stressors, such as substantial isolation and lack of social networks that are known to contribute to higher levels of depression,<sup>21</sup> were commonly reported by workers in Vermont.

Potential barriers to care were similar to those widely reported in the literature, although the ranking was different than reported in other studies. Even though few workers had health insurance, cost was a much less important barrier than fear of immigration enforcement. Most workers have not sought health care since they have been in the United States, although they indicated that if there were fewer barriers to care they would seek health care. Were they to need care, most would seek out assistance with transportation from farm management.

Language is both a barrier to care as well as a risk factor in itself.<sup>37</sup> Few workers speak English and few farmers speak Spanish. The potential for miscommunication about farm safety is substantial, as are the challenges of communicating health needs on the farm. Inability to communicate because of language issues presents both acute and chronic health risks. The combination of milking, a high-risk farming activity, with the relative inexperience of Latino farmworkers increases the necessity for farm managers to be able to communicate about dangerous situations quickly to avoid injury.<sup>4,27</sup> Language barriers are believed by non-English-speaking workers to make it more difficult to access occupational safety information or express their need to get health care.<sup>38,39</sup> Jenkins et al. note that in the northeastern United States health care clinics will be hard-pressed to find sufficient translators to serve the growing Latino immigrant community.<sup>8</sup> Even in areas where translators are available, satisfaction with their quality has been a concern among migrants.<sup>25</sup>

A number of pilot projects in the United States and Vermont have sought to use the human and technical resources of higher

education institutions to provide translation services and staff field outreach programs. In South Carolina, for example, university students served as both health care technicians and as translators to assist with outreach.<sup>40</sup> A program in southern Vermont also had positive results.<sup>41</sup>

An initial effort may be outreach to farm owners. Although it is critically important that health care providers have access to translation services at clinics, outreach to employers may be the best way to get information to the workers and improve the chances that they will be brought to a clinic in case of need. Until the legal issues associated with a lack of documentation are resolved, farmers remain the critical link for information, communication, and transportation to health services. Education of farmers about the health needs of their Latino workers is an interim step as health care providers adjust to the presence of a new Latino community.

Barriers to mental and physical health faced by Latino migrant workers are diverse and extend beyond technical health care fields into social justice and advocacy.<sup>42</sup> Hovey and Magaña conclude that educational and training programs not specifically targeted at mental health can reduce anxiety and depression by addressing some of the underlying factors leading to persistent stress.<sup>43</sup> Grzywacz identifies specific actionable issues such as communication and recreation that can be addressed to improve workers health.<sup>20</sup> Together, these point to the significant benefits to farm worker health of engaging a broader array of community partners that includes organizations outside of the health disciplines.

Liebman and Augustave argue that the greatest vulnerability, for workers as well as farmers, is immigration policy, and improvements in worker safety ultimately require changes in policy.<sup>44</sup> Although immigration policy is in the federal domain, efforts in Vermont have focused on local decisions about the extent to which municipal and state police will question individuals about their immigration status. In some regions of Vermont, citizen groups, local government, and public safety officials have sought to make it easier for migrants to move freely through “bias-free” policing policies that limit

local law enforcement inquiries into a person's immigration status.<sup>45</sup> This initiative operationalizes on a local scale Liebman and Augustave's recommendation that reducing the vulnerability of workers requires community-based approaches that foster partnerships and trust between workers and institutions interested in promoting better health.<sup>44</sup>

### Limitations

The generalizability of the findings of this study is limited by the purposive sampling method employed to contact Latino migrant dairy workers. The limitations of purposive sampling also include biases introduced by those identifying participants. However, purposive sampling is often required in order to locate subjects who rarely travel and about whom little is known. The small sample size of this research also limits the generalizability of this research. The size of the estimated population of Latino workers in Vermont ranges widely, making calculation of an adequate sample size uncertain. The data from this study came from two surveys, which restricted the number of respondents for certain questions.

The study sought information on health issues as they were perceived by Latino farmworkers. The health status of the workers was self-assessed and the severity of their ailments were not measured. Evaluation of the health of workers by health care professionals could result in a different categorization of their health status. With regard to the extent of depression or anxiety in Latino workers, the degree to which these issues are work related, result from the immigrant experience in general, or were present prior to leaving their home country was not explored. It would also be useful to be able to compare the health of Vermont's Latino dairy workers to those of other Vermont dairy workers but these data are not available.

Given the limited amount known about the Latino population in Vermont, as in many new Latino destinations, the research provides a useful point of comparison for health care providers in regions undergoing similar demographic change.

### Conclusion

Latino dairy farmworkers in Vermont consider themselves to be in good health. Compared to other studies, Latino migrants were younger and originated in regions farther south in Mexico. There was a significant difference in educational attainment between migrants from different states in Mexico. An important conclusion is that as research on Latino migrants evolves, more attention should be paid to the subnational regions from which workers originate than has occurred in the past. The assumption that cultures are homogeneous within a given country may lead researchers to overlook important cultural, educational, and health practices that differentiate one group of Latinos from another.

Local initiatives that may reduce barriers to care under current immigration policy include greater education and outreach to farmers about health resources for migrants, and adoption of "bias-free policing" that enables foreign-born workers to travel to clinics without concern that local law enforcement will inquire into their legal status.

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