



© NCFH
Photo by Alan Pogue

REGIONAL MIGRANT HEALTH PROFILE

AN ANALYSIS OF MIGRANT & SEASONAL AGRICULTURAL WORKER PATIENTS,
2014



NCFH

National Center for Farmworker Health, Inc.

ACKNOWLEDGEMENTS

This project was supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under U30CS0 9737, Technical Assistance to Community and Migrant Health Centers and Homeless, (\$1,583,856). This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS, or the U.S. Government.

REGIONAL MIGRANT HEALTH PROFILE, 2014

INTRODUCTION & AIMS

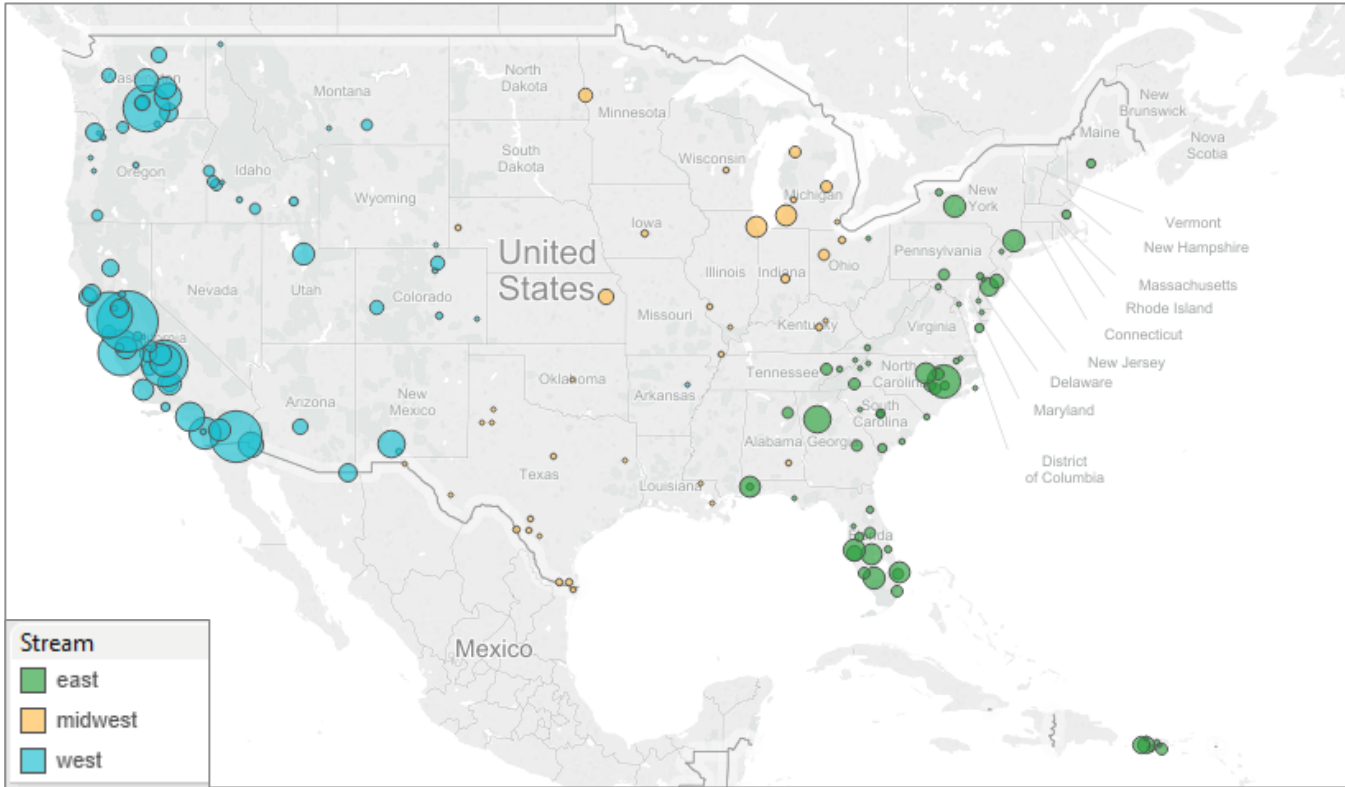
The National Center for Farmworker Health (NCFH) is producing a series of reports reflecting the demographic, socioeconomic, and health characteristics of migratory and seasonal agricultural worker (MSAW) patients and their dependents who receive primary care services at Migrant Health Centers (MHC) throughout the United States. Previous work by NCFH has examined and documented baseline MSAW national data from the 2010 and 2012 Uniform Data System (UDS) (The National Center for Farmworker Health 2013, Boggess & Bogue, 2015). This regional report examines differences and similarities among MSAW patients and their dependents in three traditional migration streams: the Western, Midwestern, and Eastern streams.

Agricultural workers are an extremely diverse population, but strong regional differences have emerged in previous research. MSAWs who are employed in the Western United States are more likely to be older, less migratory, and settled in communities with their families compared to MSAWs employed in the Eastern United States (Villarejo 2010, Arcury 2009). Both those in the Midwestern and Eastern streams are generally far more migratory than those in the Western stream, although Midwestern MSAWs tend to have larger family sizes than those in the East (Gabbard 2014). The Eastern stream has a greater reliance on H-2A guest workers in crop production, and H-2A workers generally travel without their families (Farmworker Justice 2011). The only national survey of MSAWs is the National Agricultural Workers Survey (NAWS), which utilizes stratified sampling at agricultural work sites to survey approximately 1,000 MSAWs annually (Department of Labor 2014). The NAWS provides an extensive amount of information about regional variations in MSAW demographics, job type, and migration patterns. An internal regional analysis of 2010-2012 NAWS data by NCFH found that 38% of MSAW respondents in the eastern United States reported migrating for work in agriculture, compared to just 15% in California and 17% in the Northwest. Thus national analyses of MSAW data can mask distinct regional differences.

The purpose of these reports is to provide health care practitioners, social & legal service providers, grant writers, advocates and administrators with current information about the demographic, socioeconomic and health characteristics of agricultural worker patients of MHCs. The most recent NAWS found that 32% of workers used a Health Center the last time they sought health care services, demonstrating that this system of Health Centers is an important source of health care for this population (Farmworker Justice & The National Center for Farmworker Health 2015).

The Regional Migrant Health Profile accomplishes this goal by analyzing information provided by 172 Migrant Health Centers (MHCs) in 2014 for 814,178 821,632 MSAW patients, 804,580 of which were MSAWs. Figure 1 illustrates the location of the 172 MHCs, with the circle size representing the number of MSAWs and dependents served by the MHCs (range: 16 to 70,940 MSAWs).

Figure 1. Locations of MHCs by number of patients served



BACKGROUND

The Health Resources and Services Administration requires that all 1,278 Health Center Program grantees¹ annually report selected demographic, socioeconomic and health indicators about their patient population through the Uniform Data System (UDS) (Health Resources and Services Administration, Bureau of Primary Health Care 2014). Health centers that receive federal funding for serving MSAW patients must file a separate report about all the MSAW patients they served during the year. This data provides basic information about a large number of MSAWs and their dependents who chose to receive care at a health center. Information about individual patients is not reported, but all patient data is aggregated by the Health Center.

¹ This figure does not include 81 look-alike health centers, which served 12,854 MSAWs in 2014.

MHCs are required to identify MSAWs and their dependent family members, as well as persons who have retired from agricultural work, and classify them as “migratory” or “seasonal” (Health Resources and Services Administration, Bureau of Primary Health Care 2014). All patients should be screened for MSAW identification, and identification is not dependent on ethnicity, insurance status, or any other patient characteristics but staff time constraints, lack of training, etc. may limit this practice and may result in an overall undercount of MSAW patients. Such identification is done by Health Center staff, usually through a short series of verbal or written questions as part of the patient registration process. All dependents (adult or child) of the agricultural worker are also recorded as agricultural workers. The distinction between migratory and seasonal is delineated in the Public Health Service Act 330 (3). (Cornell University n.d.) A migratory agricultural worker is “an individual whose principal employment is in agriculture, who has been so employed within the last 24 months, and who establishes for the purposes of such employment a temporary abode” (Cornell University n.d.). Seasonal workers and families are similarly defined but do not establish temporary homes for employment. The definition of agriculture for this group of patients follows the UDS definition of agriculture, which is based on the North American Industrial Classification System and includes all sub-codes within codes 111 (Crop Production), 112 (Animal Production and Aquaculture), 1151 (Support Activities for Crop Production), and 1152 (Support Activities for Animal Production), (Health Resources and Services Administration, Bureau of Primary Health Care 2014).

Health Centers report both agricultural workers and their adult and child dependents as MSAWs, and no distinction can be made between workers and dependents in the UDS. “MSAW patients” will be used in this report to refer to both migratory and seasonal agricultural workers and to their dependents.

METHODS

The 2014 UDS dataset was obtained by NCFH from the Health Resources Services and Services Resources Administration. All responses from Health Centers that received 330(g) funding for Migrant Health services in 2014 were extracted from the original data set. A total of 172 MHCs were identified and were reported to have served a total of 814,178 patients in 2014. Of these, 804,580 (98.8%) were reported to be MSAWs or their dependents. Because of reporting requirements, data for non-MSAW and MSAW patients were aggregated for a small number of MHCs. For the sake of simplicity, these patients (1.2%) are referred to as MSAWs and their dependents throughout the paper since they could not be excluded without excluding data on all patients from those MHCs.

MHCs were then grouped based on their location (see Table 1). This division of states is based partially on historical patterns of the migration of agricultural workers and partially on the designation of regions in the National Agricultural Workers Survey.

Table 1. Division of regional streams

Western Stream N = 70 MHCs	Midwestern Stream N = 37 MHCs	Eastern Stream N = 65 MHCs
Arizona	Arkansas	Alabama
California	Iowa	Connecticut
Colorado	Illinois	Delaware
Idaho	Indiana	Florida
Montana	Kansas	Georgia
New Mexico	Kentucky	Maine
Oregon	Louisiana	Maryland
Utah	Michigan	Massachusetts
Washington	Minnesota	Mississippi
Wyoming	Missouri	New Jersey
	Nebraska	New York
	North Dakota	North Carolina
	Ohio	Pennsylvania
	Oklahoma	South Carolina
	Texas	Tennessee
	Wisconsin	Vermont
		Virginia
		West Virginia
		Puerto Rico

Data from Tables 3A, 3B, 4 and 6A of the UDS were utilized (Health Resources and Services Administration, Bureau of Primary Health Care 2014). Demographic and socioeconomic data has been presented as percentages. Health indicators for infectious disease are presented as a one-year prevalence rate per 100,000 patients due to the rarity of these conditions. All other health indicators are presented as percentages. All percentages were rounded to the nearest whole number, and thus summing all percentages in a particular category may not equal 100%.

RESULTS

DEMOGRAPHIC CHARACTERISTICS

Strong regional variations in patient demographics emerged from this analysis (see Table 2). More than half of MSAW patients in the Eastern and Midwestern streams were classified as migratory, compared to just under one-third in the Western stream. A higher proportion of dependents was served in the Western stream, with children less than 18 years of age accounting for 39% of MSAW patients in this region. The smallest proportion of children was in the Eastern Stream, with 26% of MSAW patients under 18 years. The Eastern stream also served the lowest proportion of female patients.

In all three streams, approximately nine in ten MSAW patients were Hispanic, but the Eastern stream had a substantially higher proportion of Black Hispanic and multi-racial Hispanic MSAW patients compared to patients in the Western and Midwestern streams, where most Hispanic patients were reported as White. The greatest proportion of MSAW patients best served in a language other than English was also in the Eastern stream and the lowest in the Western stream.

Table 2. Demographic characteristics of MSAW patients and dependents

	Western Stream N = 70 MHCs 574,687 MSAWs	Midwest Stream N = 37 MHCs 47,523 MSAWs	Eastern Stream N = 65 MHCs 191,968 MSAWs	Total N = 172 MHCs 814,178 MSAWs
MSAW status				
Migratory	29%	52%	58%	37%
Seasonal	71%	48%	42%	63%
Age				
Under 18 years	39%	29%	26%	36%
18-39 years	31%	35%	42%	34%
40-64 years	26%	32%	28%	27%
65 years and older	4%	4%	3%	4%
Sex				
Female	57%	50%	47%	54%
Male	43%	50%	53%	46%
Ethnicity				
Hispanic	90%	86%	90%	90%
Race*				
American Indian/Alaskan Native	1%	<1%	<1%	1%
Asian/Pacific Islander	1%	<1%	<1%	1%
African American/Black	<1%	2%	13%	4%
More than 1 race	3%	3%	5%	3%
White	94%	94%	81%	91%
<i>Unreported</i>	<i>26%</i>	<i>32%</i>	<i>25%</i>	<i>26%</i>
Best served in language other than English	59%	62%	74%	62%

*Race reported as percentage of patients with known race.

Percentages may not sum to exactly 100% due to rounding.

SOCIOECONOMIC CHARACTERISTICS

The poverty levels of MSAW families differ among the three streams, but more similarities were observed than differences. Poverty was pervasive among all MSAWs, with nearly all patients earning family incomes below 200% of the federal poverty level (see Table 3). The Eastern stream reported the greatest proportion of patients with incomes below 100% of the federal poverty level, but this finding could be biased by the fact that 18% of patients in this stream did not report an income.

Table 3. Family income levels of MSAW patients

	Western Stream N = 70 MHCs 574,687 MSAWs	Midwest Stream N = 37 MHCs 47,523 MSAWs	Eastern Stream N = 65 MHCs 191,968 MSAWs	Total N = 172 MHCs 814,178 MSAWs
Income*				
≤100% FPL**	73%	76%	85%	76%
101-150% FPL	16%	16%	11%	15%
151-200% FPL	7%	5%	2%	6%
>200%FPL	4%	3%	2%	3%
<i>Unreported</i>	<i>9%</i>	<i>13%</i>	<i>18%</i>	<i>11%</i>

*Percentages only include patients with known family income levels

**FPL = Federal poverty level

Differences in insurance status across the three streams were dramatic. The Midwestern Stream had extremely high proportions of uninsured MSAW patients, both children and adults (see Table 4). Fifty percent of MSAW patients 17 years of age and under were uninsured in the Midwest, compared to 32% in the East and just 15% in the West. The vast majority of adult patients in the Midwest were uninsured, and very few had Medicaid coverage compared to MSAW patients in the other two streams.

Table 4. Insurance coverage among MSAW patients

	Western Stream N = 70 MHCs 574,687 MSAWs	Midwestern Stream N = 37 MHCs 47,523 MSAWs	Eastern Stream N = 65 MHCs 191,968 MSAWs	Total N = 172 MHCs 814,178 MSAWs
Insurance Status, 0-17 years				
Uninsured	15%	50%	32%	20%
Medicaid/CHIP	80%	43%	57%	75%
Medicare	0%	0%	0%	0%
Other public source	<1%	<1%	2%	<1%
Private	4%	3%	4%	4%
Insurance Status, 18+ years				
Uninsured	50%	82%	76%	59%
Medicaid/CHIP	33%	8%	13%	26%
Medicare	5%	4%	2%	4%
Other public source	<1%	<1%	<1%	<1%
Private	11%	6%	7%	10%

HEALTH INDICATORS

The Uniform Data System collects health status information on all agricultural worker patients on the 26 selected health indicators below. These health indicators are defined by International Classification of Diseases (ICD)-9-CM codes, which are internationally recognized diagnosis codes. The most common indicators for non-communicable and communicable conditions are ranked in Tables 5 and 6 by the percent of patients with the diagnosis. Because this population of MSAW patients does not represent a random sample of all agricultural workers, extrapolating these findings to general populations of agricultural workers is not encouraged.

Hypertension was the most common condition among MSAW patients in all three streams. The Western stream had higher proportions of hypertension, overweight/obesity, asthma, and depression & mood disorders in comparison to the Midwestern and Eastern streams. MSAW patients in the Midwestern stream had the highest prevalence of diabetes mellitus.

Table 5. Prevalence of most commonly diagnosed non-communicable conditions

Indicator	Western Stream N = 70 MHCs 574,687 MSAWs	Midwestern Stream N = 37 MHCs 47,523 MSAWs	Eastern Stream N = 65 MHCs 191,968 MSAWs	Total N = 172 MHCs 814,178 MSAWs
1. Hypertension*	19.5%	19.0%	13.3%	17.8%
2. Overweight/obesity	12.6%	9.6%	9.4%	11.7%
3. Diabetes mellitus*	14.5%	15.0%	9.3%	13.1%
4. Asthma	3.7%	1.6%	2.6%	3.3%
5. Depression and other mood disorders	4.4%	3.7%	2.4%	3.8%

*Adjusted for number of patients aged 20 years or more.

The prevalence burden of communicable diseases among the three streams differs widely. MSAW patients in the Western stream had the lowest burden of HIV/AIDS, but the highest burden of sexually transmitted diseases (Table 6). The Eastern stream had a 1.4 times higher prevalence of HIV/AIDS compared to the Midwestern stream, but a similarly high prevalence of sexually transmitted diseases was not observed in this region. The Western stream had the highest prevalence of tuberculosis and hepatitis C and the Eastern stream had the highest prevalence of hepatitis B.

Table 6. Prevalence of most commonly diagnosed communicable conditions

Indicator	Western Stream N = 70 MHCs 574,687 MSAWs	Midwestern Stream N = 37 MHCs 47,523 MSAWs	Eastern Stream N = 65 MHCs 191,968 MSAWs	Total N = 172 MHCs 814,178 MSAWs
1. HIV/AIDS, cases per 100,000 MSAWS	101.9	94.7	133.1	108.9
2. Tuberculosis, cases per 100,000 MSAWS	69.5	40.0	24.0	57.3
3. Sexually transmitted diseases, cases per 100,000 MSAWS	314.7	159.9	217.0	283.0
4. Hepatitis B, cases	14.9	16.8	30.8	18.7

per 100,000 MSAWS				
5. Hepatitis C, cases per 100,000 MSAWS	222.4	157.8	91.8	170.7

DISCUSSION & CONCLUSION

This analysis highlights strong regional differences among MSAW patients of Migrant Health Centers that may be masked by national aggregate data. One of the most important findings was the regional inequity in health insurance coverage among both child and adult MSAW patients. A high proportion of MSAW patients in all three streams were uninsured, but the inequity seen in the Midwest is likely a reflection of state policies, and may be limiting the number of MSAW patients Midwestern MHCs can feasibly serve. The Midwestern stream was the only one to report the majority of its child MSAW patients as uninsured, and more than 8 in 10 adult MSAW patients were uninsured in the Midwest. The National Center for Farmworker Health estimates that there are at least 300,000 MSAWs and dependents in Texas alone, yet the entire Midwestern stream served fewer than 50,000 MSAW patients. The proportion of uninsurance found in the Midwest may decrease as the Affordable Care Act is implemented, but 34% of MSAW patients in the Midwest were served in states that are not planning to expand Medicaid (Kaiser Family Foundation 2015). Future growth in the number of MSAWs served in this region will likely be extremely limited unless other sources of funding for serving the uninsured increase.

The demographic characteristics of MSAW patients by region also differ substantially. The Eastern stream reflects the presence of large numbers of H-2A guest workers who are employed seasonally in North Carolina, Florida, Georgia and New York. In 2014, agricultural employers in these four states hired more than 43,000 H-2A guest workers, accounting for 37% of all H-2A workers in the United States (Office of Foreign Labor Certification, U.S. Department of Labor 2014). The highest proportions of MSAW patients between 18-39 years old, migratory, male, and served in a language other than English were found in the Eastern stream. A far higher proportion of African American patients was reported in the Eastern stream (13%) compared to the Western (<1%) or the Midwestern (2%) streams. MHCs in the Western stream served higher proportions of children, women, and seasonal MSAW patients, which reflects previous research and survey findings that California MSAWs tend to settle in the area with their families (Martin n.d.). Demographic characteristics of Midwestern MSAW patients were generally between the extremes of the Western and Eastern streams. The proportion of MSAW patients who were Hispanic was very similar in all three streams. Poverty levels differed slightly by stream, but

substantial proportions of MSAW patients in each stream who did not report an income level may bias these findings.

Differences in disease prevalence are likely due to the varying age distributions of MSAW patients in each stream. A higher prevalence of asthma, hypertension and overweight/obesity was observed in the Western stream, which would be expected with a greater proportion of children and older patients in that region. However, some findings were more puzzling. The highest prevalence of diabetes was found in the Midwest, even though these patients were not disproportionately older in comparison to the Western and Eastern stream. Some of the states with the highest diabetes prevalence are found in the Midwest, in Kentucky, Louisiana, Oklahoma, and Texas (Centers for Disease Control and Prevention 2012). Findings for communicable diseases also varied significantly by stream, with the highest burden of HIV/AIDS and hepatitis B found in the Eastern stream and the highest burden of sexually transmitted infections, hepatitis C, and tuberculosis in the Western stream. Research conducted with 100 migratory agricultural workers in North Carolina found that 55% did not know what hepatitis B was, and that 16% reported paying a woman to have sex in the past three months (Rhodes 2013). The largely male, population migrating without families in the Eastern stream may be leading to a higher burden of many sexually transmitted diseases in this region.

There are several limitations to this analysis. Data from the UDS is collected from busy Health Center staff rather than trained data collectors, although it does undergo rigorous evaluation and verification by the Health Resources and Services Administration. All data is aggregated by Health Center, so cross-tabulations are not possible (e.g., it is not possible to determine how many MSAWs classified as migratory were diagnosed with diabetes). While some variables are very clearly defined, such as the health indicators, others may be more open to interpretation and definitions may vary by Health Center. The definition of migratory and seasonal workers is one such example. While the Public Health Service Act 330 clearly stated that migratory agricultural workers “establish a temporary abode”, a definition of “seasonal” is not provided (Cornell University n.d.). Thus some Health Centers may adopt a narrow definition of seasonal, and others may interpret it more broadly. Another critical limitation is the potential for study population biases to occur. Information on all patients served by a Migrant Health Center is reported, and it is unknown if Migrant Health Center patients are truly representative of U.S. MSAWs. A comparison of the 2012 Uniform Data System to the 2011-2012 NAWS demonstrated that while MSAW patients of Migrant Health Centers appear to be quite similar linguistically and ethnically to MSAWs in general, a much higher proportion of MSAWs served by Health Centers lived below the poverty line compared to the NAWS findings (Boggess & Bogue, 2015). Additionally, health-related data is extracted from administrative billing records, which can underestimate the prevalence of certain conditions and is subject to differences in billing practices (Ferver, Burton, & Jeslow, 2009).

Overall, MSAW patients in the three historic migration streams exhibited distinct demographic, socioeconomic and health characteristics. Findings from this analysis of the 2014 UDS data demonstrate that the needs of MSAW patients vary greatly by region, and that national data may mask important trends and differences. Higher proportions of MSAW patients in the Western stream were female, under 18 years of age, and suffered from hypertension, asthma, overweight/obesity, sexually transmitted diseases, and tuberculosis. MSAW patients in the Eastern stream were the most likely to be young adults, migratory, and male and experienced the highest burden of HIV/AIDS and hepatitis B. Midwestern MSAW patients were also highly migratory and experienced a disproportionate burden of uninsurance and diabetes mellitus.

REFERENCES

- Arcury, T.A. & Marín, A.J. 2009. "Latino/Hispanic Farmworkers and Farm Work in the Eastern United States: The Context for Health, Safety, and Justice." In *Latino farmworkers in the eastern United States*, edited by T.A. & Quandt, S. Arcury. Springer. doi:10.1007/978-0-387-88347-2_2.
- Boggess, B. & Bogue, H. 2015. "The health of U.S. agricultural workers: A descriptive study of over 790,000 agricultural workers and their dependents." *Journal of Health Care for the Poor and Underserved* [in press].
- Centers for Disease Control and Prevention. 2012.
<http://www.cdc.gov/diabetes/pubs/pdf/diabetesreportcard.pdf>.
- Cornell University. n.d. "42 U.S. Code § 254b - Health centers."
<https://www.law.cornell.edu/uscode/text/42/254b>.
- Department of Labor. 2014. *The National Agricultural Workers Survey*. Accessed March 20, 2015.
<http://www.doleta.gov/agworker/naws.cfm>.
- Farmworker Justice & The National Center for Farmworker Health. 2015. "Farmworkers' health fact sheet: Data from the National Agricultural Workers Survey."
<http://www.ncfh.org/docs/fs-NawsHealthFactSheet.pdf>.
- Farmworker Justice. 2011. "No way to treat a guest: Why the H-2A agricultural visa program fails U.S. and foreign workers."
<http://www.farmworkerjustice.org/sites/default/files/documents/7.2.a.6%20No%20Way%20To%20Treat%20A%20Guest%20H-2A%20Report.pdf>.

- Gabbard, S. 2014. "Who does farm worker and how has this changed: Findings and trends from the Census of Agriculture and the NAWS." *Midwest Stream Farmworker Health Forum*. San Antonio.
- Health Resources and Services Administration, Bureau of Primary Health Care. 2014. "BPHC Uniform Data System Manual 2014." <http://bphc.hrsa.gov/datareporting/reporting/2014udsmanual.pdf>.
- Kaiser Family Foundation. 2015. *Status of state action on the Medicaid expansion decision*. March 6. <http://kff.org/health-reform/state-indicator/state-activity-around-expanding-medicaid-under-the-affordable-care-act/>.
- Martin, P. & Mason, B. n.d. *Hired workers on California farms*. University of California Davis. <http://migration.ucdavis.edu/cf/more.php?id=174>.
- Office of Foreign Labor Certification, U.S. Department of Labor. 2014. http://www.foreignlaborcert.doleta.gov/pdf/H-2A_Selected_Statistics_FY2014_Q4.pdf.
- Rhodes, S.D., Bischoff, W.E., Burnell, J.M., Whalley, L.E., Walkup, M.P., Vallejos, Q.M., et al. 2013. "HIV and sexually transmitted disease risk among male Hispanic/Latino migrant farmworkers in the Southeast: Findings from a pilot CBPR study." *Am J Ind Med* 53 (10): 976-983. doi:10.1002/ajim.20807.
- Stromsdorfer, E.W. 2007. "Washington State farm workers." *Rural Migration News* 13 (4). <http://migration.ucdavis.edu/rmn/more.php?id=1255>.
- The National Center for Farmworker Health. 2013. "A profile of migrant health: An analysis of the uniform data system, 2010."
- Villarejo, D., McCurdy, S.A., Bade, B., Samuels, S., Lighthall, D., & Williams, D. 2010. "The health of California's immigrant hired farmworkers." *American Journal of Industrial Medicine* 53 (4): 387-97. doi:10.1002/ajim.20796.