



ORAL HEALTH

Dental disease is one of the most common and preventable ailments in the United States. According to an analysis of Migrant Health Center data, agricultural worker patients received over 869,000 health center visits for dental care services in 2016..¹ Agricultural workers face a lack of dental insurance, long travel times to dental care, linguistic barriers, and shortages of oral health care providers as key obstructions to achieving oral health.

GENERAL INFORMATION

ORAL HEALTH & DISEASE

- Common oral diseases include periodontal (gum) disease, dental cavities, and oral cancer. Others include cleft lip and palate and traumatic injuries. People living in low- and middle-income countries often suffer from oral infectious diseases, which may be co-morbidities of other diseases, such as HIV/AIDS and measles.²
- Much improvement in public oral health in the U.S. has been seen over the last 50 years, largely due to community water fluoridation and improved preventive care.³
- Major risk factors for poor oral health in the U.S. include an unhealthy diet, tobacco use, frequent alcohol use, and poor access to dental services & dental insurance.⁴
- Non-Hispanic blacks, Hispanics, American Indians & Alaska Natives, persons living below 100% of the federal poverty level, and persons without a high school education are all more likely to experience disparities in oral health.⁵

EPIDEMIOLOGY & DISPARITIES

- Nearly half (47%) of adults in the U.S. have a form of periodontal disease.⁶
- Oral health greatly varies by country of origin. Mexicans have an average of 2.0 decayed, missing, or filled teeth (DMFT), El Salvadorians have 1.5 DMFTs, Puerto Ricans have 3.8 DMFTs, and people living in the U.S. have an average of 1.19 DMFTs.⁷
- Multiple oral health disparities based on race and ethnicity exist in the U.S.: Mexican-Americans have higher rates of tooth decay and periodontal disease than non-Hispanic Whites.⁸
- Children are not spared from oral health disparities. Twenty-nine percent of Mexican American children aged 2-5 had untreated dental caries, compared to 14% of non-Hispanic White children. Poverty is also a driving determinant of oral health; 12% of children aged 2-5 whose families earned incomes at or above 200% of federal poverty level (FPL) experienced untreated dental caries, while 26% of children in the same age group with family incomes below 100% FPL had untreated dental caries.⁹
- While nearly half (49%) of non-Hispanic Whites had a dental visit in the last 12 months, less than a third (28%) of Hispanics in the U.S. had a dental visit in the last year, a lower

proportion than reported by non-Hispanic Blacks or American Indians/Alaskan Natives (31% and 34%, respectively).¹

AGRICULTURAL WORKER-SPECIFIC INFORMATION

OVERVIEW

- Agricultural workers frequently suffer from disparities in oral health compared to other populations, and multiple research studies indicate that lack of access to oral health care is the most significant contributor to these disparities.^{11,12}
- First-generation immigrant Hispanics have been found to experience better oral health-related quality of life than their native-born Hispanics, non-Hispanic Whites, and non-Hispanic Blacks.^{13,14}
- Based on a survey of Community/Migrant Health Centers, agricultural worker patients most frequently sought emergency dental care, basic restorative services, and preventive services for oral health care needs.¹⁵
- Poor oral health not only has biologic effects, but psycho-social effects as well. Medical anthropological research has underscored that “the effects of several oral disease are visible to the naked eye; they mark bodies with their second-class citizenship”, and can create social exclusion issues for already marginalized populations of migratory farmworkers.¹⁶

RISK FACTORS

- Immigrant agricultural workers may have more oral care needs based on their country of origin and the age at which they emigrated to the U.S. Research conducted with immigrants in New York City found that the shorter the length of stay in the U.S., the higher the need for treatment of dental caries, and an older age at the time of immigration was associated with an increased severity of periodontal disease.¹⁷ However, it should be noted that research has also shown that the “Hispanic paradox” of health applies to oral health. Less acculturated Hispanic immigrants (particularly Mexican immigrants) have better oral health status as compared to non-Hispanic, non-immigrant Whites, but this better oral health status is not shared by U.S-born Hispanics.^{18,19} The implications from this research for those serving agricultural workers highlights the need for a clear understanding of the demographic, geopolitical, cultural, and national origin background of patients, and tailoring care based on that information.
- Low education levels and a lack of dental insurance decrease the likelihood that a person will have the ability to access preventive dental care, and these factors coupled with poor nutritional status may increase an agricultural worker’s risk of experiencing oral health issues.²⁰
- Poverty is a key determinant of oral health in the United States.²¹ According to the National Agricultural Workers Survey, the average estimated income for agricultural worker families is between \$17,500 and \$19,999 a year, indicating that this key determinant may play a major role in the oral health status of agricultural workers.²²

- A survey of Latino agricultural workers in Florida found that knowledge of oral cancer risk factors and symptoms was low among adult workers, and that they were unlikely to seek preventative dental care.²³
- Among children of agricultural workers in California, 23% had never been to a dentist, and about half (51%) had visited a dentist in the past year. Children were nearly 5 times more likely to have visited a dentist in the past if they had a regular source of dental care as compared to those that did not.²

BARRIERS TO CARE

- Structural inequalities and unsupported programs may lead to oral health disparities seen in migrant agricultural worker populations.²⁵ Low reimbursement rates for Medicaid patients and shortages of dentists and oral surgeons working in underserved and rural areas may exacerbate existing limitations on the availability of dental services for agricultural workers and their families.
- A survey of 157 agricultural workers found that the key barriers to receiving oral health care were “crop demands, travel distance, and transportation”, with cost of services and the lack of an available interpreter also being significant barriers to care.²⁶
- A cross-sectional survey of 831 agricultural worker patients of Health Centers found that these patients received comparable care to other Health Center patients, but access to timely dental care emerged as a top concern for this population.²⁷
- Two thirds of agricultural workers surveyed in California lacked dental insurance, and 86% perceived having current oral health needs. This survey also found that the ability to obtain a regular source of dental care helped mitigate low utilization rates and lower dental symptoms.²⁸
- A survey of 81 Community/Migrant Health Centers regarding oral health care and agricultural worker patients found that the most significant barriers to oral health care were the difficulty in staffing a dentist, limited funding, transportation issues, and the cost of the services to the patient.²⁹
- A partnership between area churches and a Health Center in Oregon found that just 20% of agricultural workers surveyed had received dental care services in the past year, even though 58% reported that they had poor or fair oral health. A fear of deportation was reported as a major concern among this primarily indigenous (68%) population of agricultural workers, but providing services through area churches helped to reduce fear and increase access to services.³⁰

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1. Health Resources and Services Administration. (2016). Table 6A: Selected diagnoses and services rendered. Retrieved from <https://bphc.hrsa.gov/uds/datacenter.aspx?q=t6a&year=2016&state=&fd=mh>
 2. World Health Organization. (2012). Oral health fact sheet. Retrieved from <http://www.who.int/mediacentre/factsheets/fs318/en/>
 3. Healthy People 2020. (2013). Oral health: Overview. Retrieved from <http://healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=32#two>
 4. Centers for Disease Control and Prevention. (2009). Disparities in oral health. Retrieved from http://www.cdc.gov/oralhealth/oral_health_disparities.htm

5. Centers for Disease Control and Prevention. (2015). Prevalence of periodontitis in adults in the United States: 2009 and 2010. *Journal of Dental Research*, 91(10): 914-20. Retrieved from <http://www.cdc.gov/oralhealth/index.htm>
6. Centers for Disease Control and Prevention. (2012). Prevalence of periodontitis in adults in the United States: 2009 and 2010. *Journal of Dental Research*, 91(10): 914-20. Retrieved from <http://www.cdc.gov/oralhealth/index.htm>
7. Malmö University. (Data source dates vary). Country oral health profiles. Retrieved from <http://www.mah.se/CAPP/Country-Oral-Health-Profiles/According-to-Alphabetical/?id=41424>
8. Centers for Disease Control and Prevention. (2013). Disparities in oral health. Retrieved from http://www.cdc.gov/OralHealth/oral_health_disparities/
9. Centers for Disease Control and Prevention. (2011). Untreated dental caries (cavities) in children age 2-19, United States. Retrieved from <http://www.cdc.gov/features/dsuntreatedcavitieskids/index.html>
10. Healthy People 2020. (2013). Oral health: National snapshot. Retrieved from <http://healthypeople.gov/2020/topicsobjectives2020/nationalsnapshot.aspx?topicId=32>
11. Quandt, S., Clark, H., Rao, P., & Arcury, T. (2007). Oral health of children and adults in Latino migrant and seasonal farmworker families. *Journal of Immigrant and Minority Health*, 9(3). Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/17252193>
12. Finlayson, T., Gansky, S., Shain, S., & Weintraub, J. (2010). Dental utilization among Hispanic adults in agricultural worker families in California's Central Valley. *Journal of Public Health Dentistry*, 70(4). Doi: 10.1111/j.1752-7325.2010.00184.x. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3462228/>
13. Sanders, A. (2010). A Latino advantage in oral health-related quality of life is modified by nativity status. *Social Science & Medicine*, 71(1). Doi: 10.1016/j.socscimed.2010.03.031. Retrieved from https://www.researchgate.net/publication/43533283_A_Latino_Advantage_in_Oral_Health-Related_Quality_of_Life_is_Modified_by_Nativity_Status
14. Spolsky, V., Marcus, M., Der-Martirosian, C., Coulter, I., & Maida, C. (2012). Oral health status and the epidemiologic paradox within Latino immigrant groups. *BioMed Central Oral Health*, 12. doi:10.1186/1472-6831-12-39. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3528412/>
15. Lukes, S., & Simon, B. (2006). Dental services for migrant and seasonal farmworkers in US Community/Migrant Health Centers. *National Rural Health Association*, 22(3). Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/?term=Dental+Services+for+Migrant+and+Seasonal+Farmworkers+in+US+Community+Health+Centers>
16. Horton, S., & Baker, J. (2010). Stigmatized biologies: Examining the cumulative effects of oral health disparities for Mexican American farmworker children. *Medical Anthropology Quarterly*, 24(2). Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/20550093>
17. Cruz, G., Chen, Y., Salazar, C., Le Geros, R. (2009). The association of immigration and acculturation attributes with oral health among immigrants in New York City. *American Journal of Public Health*, 99. Doi: 10.2105/AJPH.2008.149799. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/19443820>
18. Sanders, A. (2010). A Latino advantage in oral health-related quality of life is modified by nativity status. *Social Science & Medicine*, 71(1). Doi: 10.1016/j.socscimed.2010.03.031. Retrieved from <https://uncch.pure.elsevier.com/en/publications/a-latino-advantage-in-oral-health-related-quality-of-life-is-modi>
19. Spolsky, V., Marcus, M., Der-Martirosian, C., Coulter, I., & Maida, C. (2012). Oral health status and the epidemiologic paradox within Latino immigrant groups. *BioMed Central Oral Health*, 12. doi:10.1186/1472-6831-12-39. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3528412/>
20. Healthy People 2020. (2013). Oral health: Overview. Retrieved from <http://healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=32#two>
21. Dye, D., & Thornton-Evans, G. (2010). Trends in oral health by poverty status as measured by Healthy People 2010 objectives. *Public Health Reports*, 125(6). Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/21121227>
22. Carroll, D., Georges, A., & Saltz, R. (2011). Changing characteristics of U.S. farm workers: 21 years of findings from the National Agricultural Workers Survey. Retrieved from <http://migrationfiles.ucdavis.edu/uploads/cf/files/2011-may/carroll-changing-characteristics.pdf>

23. Dodd, V., Schenck, D., Chaney, E., & Padhya, T. (2016). Assessing oral cancer awareness among rural Latino migrant workers. *Journal of Immigrant and Minority Health*, 18(3):552-560. Doi: 10.1007/s10903-015-0228-7. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/26018959>
24. Finlayson, T., Gansky, S., Shain, S., & Weintraub, J. (2014). Dental utilization by children in Hispanic agricultural worker families in California. *Journal of Dental, Oral, and Craniofacial Epidemiology*, 2(1-2): 15-24. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4301614/>
25. Castañeda, H., Carrion, I., Kline, N., & Tyson, D. (2010). False hope: Effects of social class and health policy on oral health inequalities for migrant farmworker families. *Social Science & Medicine*, 71(11). Doi:10.1016/j.socscimed.2010.09.024. Retrieved from <http://europepmc.org/abstract/med/20943298>
26. Fallon, L., Schmalzried, H., & Earlie-Royer, R. (2012). Reducing barriers for migratory agricultural workers to receive oral health care services. *Journal of the Michigan Dental Association*, 94(90). Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/?term=reducing+barriers+for+migratory+agricultural+workers+to+receive+oral+health>
27. Hu, R., Shi, L., Lee, D., & Haile, G. (2016). Access to and disparities in care among migrant and seasonal farm workers (MSFWs) at U.S. health centers. *Journal of Health Care for the Poor and Underserved*, 27(3): 1484-1502. Doi: 10.1353/HPU.2016.0107. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/27524780>
28. Finlayson, T., Gansky, S., Shain, S., & Weintraub, J. (2010). Dental utilization among Hispanic adults in agricultural worker families in California's Central Valley. *Journal of Public Health Dentistry*, 70(4). Doi: 10.1111/j.1752-7325.2010.00184.x. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3462228/>
29. Lukes, S., & Simon, B. (2006). Dental services for migrant and seasonal farmworkers in US Community/Migrant Health Centers. *National Rural Health Association*, 22(3). Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/?term=Dental+Services+for+Migrant+and+Seasonal+Farmworkers+in+US+Community%2FMigrant+Health+Centers>
30. López-Cevallos, D., Lee, J., & Donlan, W. (2014). Fear of deportation is not associated with medical or dental care use among Mexican-origin farmworkers served by a federally-qualified health center/faith-based partnership: An exploratory study. *Journal of Immigrant and Minority Health*, 16(4): 706-711. Doi: 10.1007/s10903-013-9845-1. Retrieved from <https://www.semanticscholar.org/paper/Fear-of-Deportation-is-not-Associated-with-Medical-L%C3%B3pez-Cevallos-Lee/36a35441bfb6754e265bc0e6a1aea026dc660123>