J Immigrant Minority Health
DOI 10.1007/s10903-016-0417-z

ORIGINAL PAPER

Immigrant Health in Rural Maryland: A Qualitative Study of Major Barriers to Health Care Access

Thurka Sangaramoorthy[1] · **Emilia M. Guevara**[1]

Abstract Immigration to rural areas in new receiving communities like Maryland's Eastern Shore is growing. Despite a rapid rise in immigration and diminishing health system resources, little attention has been focused on barriers to health care access in this region for immigrants. A total of 33 in-depth key informant interviews with providers and immigrants were conducted. Qualitative analysis employing a constant comparison approach was used to explore emergent themes related to barriers to health care access for a growing immigrant population. Participants perceived limited health care resources, lack of health insurance coverage, high health expenditures, language barriers, and non-citizenship status as barriers to immigrants' access of health care. Findings imply that immigrants living and working on the rural Eastern Shore face serious barriers to health care access. Additional work on immigrant health in rural areas and the impacts of immigration to rural health systems are needed.

Keywords Immigrant health · Rural health · Health care access · Provider perspectives · Qualitative research

Introduction

Across the United States, evidence indicates that immigrants are increasingly settling in new receiving rural regions and small towns, places without high concentrations of immigrant communities [1]. Immigration to these locales is driven largely by economic opportunities in low-skilled employment [2–4]. Rural communities face considerable challenges in responding to such drastic population shifts given their relative geographic isolation, lack of racial and ethnic diversity, and often limited public resources. The impact of rapid immigration can be particularly severe on rural health systems already struggling with a shortage of providers, high rates of uninsured patients, and limited public resources [5, 6]. Limited research, almost all focused on Latinos, indicates that these issues can intensify barriers to health care access among recently arrived immigrants in new receiving rural communities due to lack of insurance, high cost of health services, language barriers, and undocumented immigration status [7–10].

Maryland's rural Eastern Shore, composed of nine counties east of the Chesapeake Bay, is one of these new receiving regions (Table 1). It has experienced rapid growth in its immigrant population, mainly from Latin America and Haiti, who is attracted to the area's employment opportunities in seafood, livestock, and agricultural industries. The percentage of the foreign-born population increased by approximately 65 % on average across all nine counties from 2000 to 2013, with Wicomico, Dorchester, Worcester, and Cecil counties experiencing the highest percentage changes [11].

The Eastern Shore also has some of the highest poverty levels, poorest health status, and the greatest need for health care access in Maryland. A statewide needs assessment concluded that Caroline, Dorchester, and Somerset counties showed the highest need for improvement in health status indicators while Caroline, Somerset, and Wicomico counties demonstrated the greatest challenges in health care access [12]. Even though many counties encompassing Maryland's rural Eastern Shore are federally

✉ Thurka Sangaramoorthy
tsangara@umd.edu

[1] Department of Anthropology, University of Maryland, 1111 Woods Hall, 4302 Chapel Lane, College Park, MD 20742, USA

Published online: 11 April 2016

Table 1 Sociodemographics for eastern shore counties *Source*: US Census Bureau: State and County quickfacts [49]

County	Population, 2014 estimate	Minority population, percent, 2013 (%)	Foreign-born persons, percent, 2009–2013 (%)	Persons below poverty level, percent, 2009–2013 (%)
Caroline	32,538	22.7	4.0	14.4
Cecil	102,383	13.5	3.1	10.4
Dorchester	32,578	34.8	3.9	16.5
Kent	19,820	21.5	3.9	13.2
Queen Anne's	48,804	13.1	3.3	8.1
Somerset	25,859	49.0	3.2	23.4
Talbot	37,643	21.4	5.2	8.6
Wicomico	101,539	34.6	8.3	17.0
Worcester	51,675	20.0	5.1	10.9
Maryland	5,976,407	46.7	14.0	9.8

designated health shortage areas, only two federally qualified health centers, organizations which receive special Medicare and Medicaid reimbursements to assist underserved populations, serve the nine counties of the Eastern Shore [13, 14].

The Patient Protection and Affordable Care Act (ACA) has been fully implemented in Maryland, including the expansion of Medicaid and the creation of state-based exchanges under the Maryland Health Connection which provides subsidized health insurance for low-income individuals and small employers [15]. However, it is uncertain whether the provider capacity in rural Maryland can adequately serve these newly insured individuals. Rural residents may continue to face financial and systemic barriers in accessing care including health provider shortages, diminishing resources to rural health departments and hospitals, and transportation limitations [16]. Additionally, although most uninsured adults in the state are eligible for coverage expansions, there are several restrictions for immigrants. In Maryland, legal immigrants who have been in the country for less than 5 years have access to health insurance coverage through exchanges and to premium and cost-sharing subsidies, but are otherwise ineligible for Medicaid; those who are undocumented, roughly 17 % of Maryland's uninsured population, will not be eligible for any coverage under the ACA [17, 18].

Despite this policy context and rapid increases in immigrant populations in a new receiving rural region with severe health systems needs, very little is known about these immigrant communities, their health needs, and their ability to access health services. As the immigrant population continues to grow in new receiving rural regions like Maryland's Eastern Shore, additional information is needed regarding the potential influence of rural health systems on immigrants' access to health care. The data presented here were obtained during the course of an ongoing multi-year ethnographic study of the health needs of immigrants living on Maryland's Eastern Shore. During interviews with rural health and social service providers and immigrant participants, lack of health care access emerged overwhelmingly as a major concern. Thus, this analysis further examines how providers and immigrant participants perceive and experience issues related to health care access in a rural region with the aim of identifying barriers. The findings for this paper contribute to both the literature on immigrant health and rural health systems by examining health care barriers for Latino and Haitian immigrants in new receiving rural regions at the health-system and policy levels.

Methods

A total of 33 in-depth interviews, including 15 with health and social service providers, were conducted over a period of 13 months, from August 2013 to August 2014. Eligibility requirements for providers included being 18 years or older, being employed at local health and social service agencies, having regular contact with immigrant clients, and providing consent. In this study, providers are defined as those involved directly in health care of immigrants and those in social services focused on meeting health needs including helping immigrants access health care services. Immigrant participants were limited those who were foreign-born, residents of Maryland's Eastern Shore, 18 years of age and older, and willing to provide informed consent. All study protocols were approved by the University of Maryland Institutional Review Board.

We used a purposive sampling technique to recruit participants from a variety of settings on the Eastern Shore.

We recruited providers working in community-based organizations and local and rural health programs via email, phone calls, and word of mouth. Immigrant participants were initially recruited via community-based organizations, and these interviewees then referred us to colleagues, neighbors, friends, and family members; they received $30 for participating in the study.

Data were collected from Spanish and English-speaking participants through in-person interviews conducted by the authors in either Spanish or English. Thirteen interviews were conducted in Spanish with Hispanic/Latino immigrants while five were conducted in English with Haitian immigrants. Interviews lasted between 60 and 180 min and were conducted in community health facilities, service organizations, homes, migrant housing camps, and motels. Two separate semi-structured interview guides were used: one for providers, the other for immigrant participants (Table 2). The interview guide was developed through discussions with local immigration experts, and was based on the previous experience of the authors and relevant literature. Both interview guides began with the collection of basic demographic information. Interview questions were open-ended so that the interviewer could further probe and ask follow-up questions on particular domains of interest to the study. Health and social service providers were asked to describe their immigrant clients; the needs of these immigrant clients; and access to care for immigrants. Providers were also asked to discuss their day-to-day experiences in providing care for immigrant clients. Immigrant participants were asked about reasons for migrating to the Eastern Shore; daily life and local social relations; perceptions of health and well-being; and availability, quality, and use of health care services.

Interviews transcripts were compared with the original voice recordings for completeness and accuracy. Data analysis was guided by literature on immigrant health and rural health care systems and involved a modified grounded theory approach of constant comparative analysis, where data coding and analysis occurred simultaneously in an iterative process of inductive reasoning [19–21]. Our aim was to create a description of barriers to health care access drawn directly from participants' narratives. Analysis began during the data collection phase, where both authors engaged in routine discussions and reviews of transcripts, and wrote excerpts and analytical memos to identify emergent themes and differing views. Using QSR Nvivo 10, we coded the interview transcripts in several phases, beginning with open coding where we identified and organized concepts and their properties into categories [22]. Data were then coded axially in order to analyze connections among categories, and then selectively to develop a main category [23]. After finalizing the coding scheme, a printed report of each code was used to write a detailed analytical report.

Results

Characteristics of the study sample can be found in Tables 3 and 4. Immigrant participants were mostly female (61 %) and included both Latinos (n = 13) and Haitians (n = 5). Providers included those who worked in health care (27 %) and those who worked in social services (73 %). Analysis of in-depth interviews indicated that major barriers to health care access for immigrants included limited health care resources; lack of insurance and

Table 2 Selected interview questions

Providers	1. How would you describe the immigrant population that you work with?
	2. What are some of the needs of the immigrant populations that you work with?
	3. Can you describe the kinds of health care services available to immigrants in this area?
	4. Describe the experiences of your immigrant clients in accessing care.
Immigrants	1. What are some of the reasons that you work and live on the Eastern Shore?
	2. How do you feel about your health right now?
	Probes:
	What are some of your concerns about your health?
	How do you go about addressing these issues?
	3. Describe how you get health care services.
	Probes:
	What are some of the health care services you seek out?
	When do you go see someone about your health?
	Where do you go to get health care services?
	What have your experiences been like getting services?
	What do you see as the biggest hurdles, if any, to getting health care?

Table 3 Demographic characteristics of study sample (immigrants)

Demographic characteristic	N (18)	(%)
Age, years		
20–29	6	33
30–39	2	11
40–49	6	33
50–59	4	22
Gender		
Female	11	61
Male	7	39
Race/Ethnicity		
Hispanic/Latino	13	72
Haitian	5	28
White	0	0

Table 4 Demographic characteristics of study sample (providers)

Demographic characteristic	N (15)	(%)
Age, years		
20–29	2	14
30–39	3	20
40–49	5	33
50–59	5	33
Gender		
Female	11	73
Male	4	27
Race/Ethnicity		
Hispanic/Latino	9	60
Haitian	2	13
White	4	27
Service sector		
Health care	4	27
Social services	11	73

high cost of services; poor interpretation services; and non-citizenship status.

Limited Health Care Resources

Providers expressed that it was a "struggle" to provide comprehensive care to their patients because of diminishing economic resources that compromised the local health care resources including the availability of primary care providers, specialists, and health care services. A health administrator explained, "We lost funding. They cut us significantly so now we get a $15,000 grant from the state of Maryland and we beg for that every year." "You know, the funding just isn't there," a social services administrator told us, adding that it was particularly difficult for providers to support immigrant clients whose "needs are much greater than we can provide."

The lack of funding for services and workforce development, according to providers, severely impacted the availability of services. For instance, a nurse practitioner remarked, "A dentist? What's that? We only have one and he takes cash. If you don't have it, you can't get it. We don't have an eye doctor in this entire county and we have one pediatrician. We have nothing." As a result, many providers felt overburdened and unable to provide quality health care. A health provider told us that her clinic has done very little to hire additional staff despite increases in the immigrant population. She said, "Mid-level providers like me are expected to see so many patients per year. We have to see 5000. But most health centers like ours see like 2500–2800 patients per year, almost half of the number I have to see, and when our numbers go down, we get reprimanded or talked about. It's not right. There are some of us who have spoken up but it's a fine line because we can get fired and replaced and who loses in the end?"

Immigrant participants, the vast majority of whom used federally qualified health centers, had mixed perceptions. Participants felt they were treated well and had support from providers, with some revealing that if they had stayed in other states or countries, they would not have received the same type of care or survived. A participant, who routinely migrates to the Eastern Shore from Florida during the summer months, told us that he coordinates his medical visits, "It's better. I'd rather go to the clinic here every day than I go once in a year in Immokalee. I like the way they treat people over here." A woman suffering from multiple chronic conditions felt that she would have died had she not migrated to the Eastern Shore, emphatically saying, "If I had been in Mexico, they would have let me die."

Despite these favorable perceptions, participants recounted facing significant barriers in accessing and using services. Immigrant participants felt that timely access to quality care and continuity of care was limited due to a lack of health care services available for the large number of uninsured patients living in the area. A participant said, "Sometimes you wait for an appointment and they ignore you because there are a lot of people who don't have insurance. Lots of people who don't have money or the undocumented that cannot obtain insurance go there. So, sometimes you wait a long time." Another participant told us, "Many people here use the emergency room for medical care."

Lack of Insurance and High Cost of Services

A lack of affordable services was frequently mentioned as a barrier for immigrants, many of whom were uninsured or did not qualify for public assistance because of their non-citizenship status. Immigrant participants reiterated that

they only sought care when absolutely necessary because of the prohibitive cost of care and lack of insurance. Many reported spending hundreds or thousands of dollars for routine and emergency visits. A young woman said, "$250 to walk in the door for outpatient visit. Sometimes, if I'm really sick, I'll go to the hospital but the hospital is really expensive. Like, you breathe the air and you have to pay. If you get a shot there it's like $2000 dollars. It's too much. That's why people won't go to the hospital even if they're really sick. They refuse to go. Even if it's serious. Because of the cost."

Providers indicated that they did not have extensive knowledge of the conditions which affected the immigrant population because they were not regularly accessing care due to lack of insurance and prohibitive costs. A nurse supervisor said, "I would say in general, the adult population is not getting cared for. So I'm quite sure there's a lot of diabetes… lots of things that we don't know about."

Poor Interpreter Services

Participants commented that there were significant gaps in translation and interpreter services. Although some providers noted that in the last decade translation services for immigrants had drastically improved, very few official interpreters were available for the growing non-English speaking population. A health provider said, "Despite being a community hospital that's funded from the state, they are not at all friendly toward the immigrant population. I don't even know that they have a Spanish language translator staff." Interpretation for other immigrants, such as those who only spoke Haitian Creole, was rarely available or non-existent. A Haitian-Creole and English speaking resident said, "You know the main issue is that the Haitian community don't even have a Creole translator…they don't have nothing. They don't have any information."

Even if service was available, interpreters were often unable to attend to everyone needing translation because demand outpaced availability. A social services provider told us, "[The clinic] only has one Spanish translator. That translator has to work between dental as well as medical." The quality of interpretation, as a result, was poor. Participants complained of interpreters who were not translating correctly. A bilingual health provider described a clinical encounter, "I'm listening to the translator and the provider and there was so much lost I was just shocked…I could not believe what he didn't translate…There was all kinds of behavioral stuff that he just threw out the door.".

Non-Citizenship Status

Providers described non-citizenship status as a major obstacle to providing quality care for the growing immigrant population, particularly those who were undocumented. A clinic administrator said, "I think that our patients would do better all the way around if they could become legal. I think that's a huge barrier. It's a huge fear. I currently have no means of finding medical insurance for any of my patients. And so, as a result, my adult population is not going to the doctor. So, it has huge ramifications."

Providers who routinely saw undocumented clients and recently arrived documented immigrants discussed how non-citizenship status placed individuals at risk, impeding continuity of care and limiting access to life-saving treatment. A health provider described his experiences with treating an undocumented farm worker who was severely diabetic, had never received care for his condition because of his undocumented immigration status, and needed free treatment. The provider explained, "I did tests as best I could. I could get indigent rates from the lab company for certain tests. In his case, I told him he definitely has diabetes, definitely has to be on insulin. I have a very good relationship with the insulin reps so I told them, 'Look I have this gentleman who is undocumented. He can't go through patient assistance.' There are patient assistance programs through the pharmaceutical company if you are poor but if you're undocumented you're nothing so I got the reps to give me the medicine for him."

Most immigrant participants expressed that prohibitive costs were more of a barrier in accessing care than fear of authorities for those who were undocumented. An immigrant participant who was undocumented told us, "When I had the hemorrhage, I was in the hospital for eight days. The doctor wanted me to stay another eight days and I didn't want to because I was worried about how much I would have to pay. I knew the bill would be high. My husband doesn't have enough. Around that time I didn't work. He earned $300 dollars and the bills were very high. So this was a difficult time for all of us."

Discussion

Findings suggest that limited health care resources, lack of health insurance coverage, high health expenditures, language barriers, and non-citizenship status synergistically interact to influence immigrants' access of health care on Maryland's Eastern Shore. First, participants described Maryland's Eastern Shore as having limited health care resources which created barriers to health care access for immigrants. Local providers reported feeling burdened by providing care to a growing population of immigrants in the context of long-standing problems of resource distribution that characterized rural health care. Immigrant participants also explained that they accessed and used health care services intermittently due to lack of available

services. Although others have discussed chronic shortages of providers and services in rural areas [24–28], the findings suggest that these issues may be disproportionately impacting immigrants, who may face even fewer opportunities to obtain routine care and treatment than native residents. Additional funding for safety net services including federally qualified health centers by federal and state governments could help alleviate the issue of limited health resources experienced by rural communities with growing immigrant populations.

Second, lack of health insurance and high health care costs were also noted as serious barriers to accessing and utilizing care on the Eastern Shore. Previous work indicates that rural residents tend to be more often uninsured than those living in metropolitan areas and more likely to report that health care costs limit their medical care [29–31]; however, this study indicates that these factors may be magnified among immigrant populations [32–34]. Although the ACA holds the promise of making health insurance accessible for millions of people including 756,000 uninsured non-elderly Marylanders, it will not change the restrictions instituted for recently arrived legal immigrants and those who are undocumented [17, 35]. This study indicates that immigrants, especially those who are undocumented, continue to face affordability barriers and are dependent on local safety net providers even after the ACA has been fully implemented in Maryland. More research is critically needed to understand the impact of ACA on rural health services and rural immigrant populations.

Third, the current study found that poor quality interpretation services complicates access to care for Spanish and Haitian Creole-speaking populations. Previous research has documented that language barriers severely hinder access to health care, impede quality of care, and negatively affect the health outcomes of those with limited English proficiency, and that the availability of professional interpreters and bilingual providers can have a positive effect on the quality of care and health outcomes of those with limited English proficiency [36–38]. Even though previous research has documented that gaps in language services exist in health care settings despite federal policy requiring equal access for those with limited English proficiency [10], this study finds that this may be particularly an issue in rural health settings which have far fewer resources for such services. State and local entities could help ease the burden of rural health care systems by including language assistance services as a covered benefit, hiring more bilingual staff, and promoting patient awareness of available interpretation resources.

Finally, participants were united in their belief that non-citizenship status was a barrier for many because of restrictive policies that prevented immigrants from qualifying for aid or insurance. Although participants indicated that fear of deportation was a constant worry for undocumented immigrants, no one told us that this fear prevented these individuals from seeking out health services when needed. This is surprising given the ample literature that has substantiated undocumented immigrants' unwillingness and inability to access care due to fear of deportation and anti-immigration policies [39–46].

This is the first study to examine perceived barriers to access to care for Latino and Haitian immigrants on Maryland's Eastern Shore. A major strength of this paper is that it attends to the increasing growth of immigrant populations from both Latin America and Haiti in new receiving rural regions, and contributes to the understanding of how rural providers and immigrants respond to multiple challenges in the provision of health care. Considering immigrant health in new receiving rural regions is critical to understanding the local impacts of public policies related to immigration and health care access.

This study focused on perspectives from a purposive sample of providers and immigrants on the Eastern Shore. Results should not be generalized to other populations and findings may not be representative of the views of providers and immigrants in other locations. Hispanic/Latino women also constituted the majority of our provider and immigrant participant samples. Whereas this overrepresentation is reflective of immigrants' greater comfort with using language and culturally concordant providers and observed patterns of health care utilization respectively [47, 48], health care access barriers were consistent across racial/ethnic and gender groups in both samples. In addition, we did not systematically collect other sociodemographic information such as length of time for immigrant participants in the United States and in the local area, educational attainment, and availability of social support, and length of employment for providers. The collection of such variables may have further supported our analyses and future investigations examining access to health care in new receiving rural communities should include this data.

Despite these limitations, this research has considerable implications for understanding immigrant health in new receiving rural regions. Lack of health care resources and a growing influx of immigrant populations is experienced by many rural regions across the United States. It is imperative that future research comprehensively address chronic and new challenges faced by rural health care systems and residents.

Acknowledgments We would like to express our deepest gratitude and appreciation for the men and women who participated in this research and shared their perspectives and experiences with us. We also thank the anonymous reviewers for their constructive feedback, which led to considerable improvements in this paper. This work was supported by the College of Behavioral and Social Sciences Dean's Research Initiative and the Department of Anthropology at the University of Maryland College Park.

References

1. Jensen L. New immigrant settlements in rural America: problems, prospects, and policies. Available from: http://scholars.unh.edu/cgi/viewcontent.cgi?article=1016&context=carsey. Accessed 12 Aug 2015.
2. Martin P, Fix M, Taylor JE. The new rural poverty: agriculture and immigration in California. Washington, DC: The Urban Institute Press; 2006.
3. Baker PL, Hotek DR. Perhaps a blessing: skills and contributions of recent mexican immigrants in the rural Midwest. Hispanic J Behav Sci. 2003;25(4):448–68.
4. Cravey AJ. The changing south: Latino labor and poultry production in rural north carolina. Southeast Geographer. 1997;37(2):295–300.
5. Ricketts TC. The changing nature of rural health care. Annu Rev Public Health. 2000;21:639–57.
6. Hunsaker M, Kantayya VS. Building a sustainable rural health system in the era of health reform. Dis Mon. 2010;56:698–705.
7. Arcury TA, Quandt SA. Delivery of health services to migrant and seasonal farmworkers. Annu Rev Public Health. 2007;28:345–63.
8. Heyman JM, Núñez GG, Talavera V. Healthcare access and barriers for unauthorized immigrants in El Paso County, Texas. Fam Community Health. 2009;32(1):4–21.
9. Casey MM, Blewett LA, Call KT. Providing health care to Latino immigrants: community-based efforts in the rural Midwest. Am J Public Health. 2004;94(10):1709–11.
10. Cristancho S, Garces DM, Peters KE, Mueller BC. Listening to rural Hispanic immigrants in the Midwest: a community-based participatory assessment of major barriers to health care access and use. Qual Health Res. 2008;18(5):633–46.
11. US Census Bureau: American FactFinder 2000, 2010; Maryland, 2015. Available at: http://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml. Accessed 12 Aug 2015.
12. Maryland Department of Health and Mental Hygiene: 2010 primary care needs assessment. Baltimore, MD, 2011. Available at: http://phpa.dhmh.maryland.gov/IDEHASharedDocuments/PCO_Needs_Assessment_11_16_11.pdf. Accessed 12 Aug 2015.
13. US Department of Health and Human Services: find shortage areas: HPSA by State & County, 2015. Available at: http://hpsafind.hrsa.gov/. Accessed 12 Aug 2015.
14. US Department of Health and Human Services: medically underserved areas/populations, 2015. Available at: http://www.hrsa.gov/shortage/mua/. Accessed 12 Aug 2015.
15. US Department of Health and Human Services. The affordable care act—what it means for rural america. Available at: http://www.hhs.gov/healthcare/facts/factsheets/2013/09/rural09202013.html. Accessed 1 Sept 2015.
16. Kaiser Family Foundation: the affordable care act and insurance coverage in rural areas. Available at: http://kff.org/uninsured/issue-brief/the-affordable-care-act-and-insurance-coverage-in-rural-areas/. Accessed 15 Sept 2015.
17. Kaiser Family Foundation: how will the uninsured in Maryland fare under the affordable care act? Available at: http://kff.org/health-reform/fact-sheet/state-profiles-uninsured-under-aca-maryland/. Accessed 13 Aug 2015.
18. Zuckerman S, Waidmann TA, Lawton E. Undocumented immigrants, left out of health reform, likely to continue to grow as share of the uninsured. Health Aff. 2011;30(10):1997–2004.
19. Glaser BG, Strauss A. The discovery of grounded theory: strategies for qualitative research. Chicago: Aldine; 1967.
20. Miles MB, Huberman AM. Qualitative data analysis: an expanded sourcebook. 2nd ed. Los Angeles: Sage Publications; 1994.
21. Glaser BG. Emergence vs. forcing: basics of grounded theory analysis. Mill Valley: Sociology Press; 1992.
22. Bazeley P, Jackson K. Qualitative data analysis with NVivo. Thousand Oaks: Sage Publications; 2013.
23. Corbin J, Strauss A. Basics of qualitative research: techniques and procedures for developing grounded theory. 3rd ed. Thousand Oaks: Sage; 2008.
24. Ricketts TC. Rural health in the United States. New York: Oxford University Press; 1999.
25. Hartley D. Rural health disparities, population health, and rural culture. Am J Public Health. 2004;94(10):1675–8.
26. Bolin JN, Bellamy GR, Ferdinand AO, Vuong AM, Kash BA, Schulze A, Helduser JW. Rural healthy people 2020: new decade same challenges. J Rural Health. 2015;31(3):326–33.
27. Hart LG, Salsberg E, Philiips DM, Lishner DM. Rural health care providers in the United States. J Rural Health. 2002;18(Suppl):211–32.
28. Daniels ZM, Vanleit BJ, Skipper BJ, Sanders ML, Rhyne RL. Factors in recruiting and retaining health professional for rural practice. J Rural Health. 2007;23(1):62–71.
29. Jones CA, Parker TS, Ahearn M, Mishra AK, Variyam JN. Health status and health care access of farm and rural populations. Available at: http://www.ers.usda.gov/media/155453/eib57_1_.pdf. Accessed 13 Aug 2015.
30. Ziller EC, Lenardson JD, Coburn AF. Health care access and use among the rural uninsured. J Health Care Poor Underserved. 2012;23(3):1327–45.
31. Douthit N, Kiv S, Dwolatzky T, Biswas S. Exposing some important barriers to health care access in the rural USA. Public Health. 2015;129(6):611–20.
32. Gamm LD, Hutchison LL, Dabney BJ, Dorsey, AM. Rural healthy people 2010: a companion document to healthy people 2010. Available at: http://sph.tamhsc.edu/srhrc/docs/rhp-2010-volume2.pdf. Accessed 13 Aug 2015.
33. Cunningham P, Banker M, Artiga S, Tolbert J. Health coverage and access to care for Hispanics in "new growth communities" and "major Hispanic centers." Available at: https://kaiserfamilyfoundation.files.wordpress.com/2013/01/7551.pdf. Accessed 13 Aug 2015.
34. Derose KP, Escarce JJ, Lurie N. Immigrants and health care: sources of vulnerability. Health Aff. 2007;26(5):1258–68.
35. US Department of Health and Human Services. The affordable care act: coverage implications and issues for immigrant families. Available at: http://aspe.hhs.gov/hsp/11/ImmigrantAccess/Coverage/ib.pdf. Accessed 13 Aug 2015.
36. Jacobs EA, Shepard DS, Suaya JA, Stone E-L. Overcoming language barriers in health care: costs and benefits of interpreter services. Am J Public Health. 2004;94(5):866–9.
37. Ku L, Flores G. Pay now or pay later: providing interpreter services in health care. Health Aff. 2005;24(2):435–44.
38. Karliner LS, Jacobs EA, Chen AH, Mutha S. Do professional interpreters improve clinical care for patients with limited English proficiency? A systematic review of the literature. Health Serv Res. 2007;42(2):727–54.
39. Rhodes SD, Mann L, Simán FM, Song E, Alonzo J, Downs M, Lawlor E, Martinez O, Sun CJ, O'Brien MC, Reboussin BA, Hall MA. The impact of local immigration enforcement policies on the health of immigrant Hispanics/Latinos in the United States. Am J Public Health. 2015;105(2):329–37.
40. Martinez O, Wu E, Sandfort T, Dodge B, Carballo-Dieguez A, Pinto R, Rhodes S, Moya E, Chavez-Baray S. Evaluating the impact of immigration policies on health status among undocumented immigrants: a systematic review. J Immigr Minor Health. 2013;17(3):1–24.

41. Fuentes-Afflick E, Hessol NA. Immigration status and use of health services among Latina women in the San Francisco bay area. J Women's Health. 2009;18(8):1275–80.
42. Toomey RB, Umaña-Taylor AJ, Williams DR, Harvey-Mendoza E, Jahromi LB, Updegraff KA. Impact of Arizona's SB 1070 immigration law on utilization of health care and public assistance among Mexican-origin adolescent mothers and their mother figures. Am J Public Health. 2014;104(Suppl):S28–34.
43. Ortega AN, Fang H, Perez VH, Rizzo JA, Carter-Pokras O, Wallace SP, Gelberg L. Health care access, use of services, and experiences among undocumented Mexicans and other Latinos. Arch Intern Med. 2007;167(21):2354–60.
44. Campbell RM, Klei AG, Hodges BD, Fisman D, Kitto S. A comparison of health access between permanent residents, undocumented immigrants and refugee claimants in Toronto. Can J Immigr Minor Health. 2014;16(1):165–76.
45. Bustamante AV, Fang H, Garza J, Carter-Pokras O, Wallace SP, Rizzo JA, Ortega AN. Variations in healthcare access and utilization among Mexican immigrants: the role of documentation status. J Immigr Minor Health. 2012;14(1):146–55.
46. Maldonado CZ, Rodriguez RM, Torres JR, Flores YS, Lovato LM. Fear of discovery among Latino immigrants presenting to the emergency department. Acad Emerg Med. 2013;20(2):155–61.
47. Malat J. Social distance and patients' rating of healthcare providers. J Health Soc Behav. 2001;42(2):360–72.
48. Bertakis KD, Azari R, Helms LJ, Callahan EJ, Robbins JA. Gender differences in the utilization of health care services. J Fam Pract. 2000;49(2):147–52.
49. US Census Bureau: State and County quickfacts. Available at: http://quickfacts.census.gov/qfd/states/24000.html. Accessed 14 Aug 2015.