# HEALTHCARE ATTITUDES AND BEHAVIORS OF IMMIGRANT AND US-BORN WOMEN IN HAMTRAMCK, MICHIGAN: A METRONET STUDY

**Objective:** Recognizing recent immigrant migration into Hamtramck, Michigan, our objective was to conduct a survey focused on female patients seeking health care in an ethically diverse primary care clinic.

**Design:** Cross-sectional exploratory questionnaire survey study.

**Setting:** A family medicine center (FMC) in Hamtramck, Michigan.

**Participants:** A convenience sample of women patients, age ≥18 years of age who understood English and/or written or spoken Bangla.

Main Outcome Measures: Health-seeking behaviors and satisfaction with the US health-care system.

Results: 156 women patients participated. Sixty-seven (43%) were immigrants, primarily representing three ethnicities: Bangladeshi (61%), Yemeni (19%) and Bosnian (13%). The mean length of residence in the United States was eight years. Compared with US-born, the immigrants were more likely to report a household income of less than \$15,000; however they had similar rates of health insurance. USborn women reported less satisfaction with our healthcare system. Immigrants were more likely to visit their physician when feeling ill, and to bring a friend or relative to help alleviate communication problems. Immigrant women were also more likely to express a desire for a physician who was female and/ or from a similar cultural background.

**Conclusions:** The study findings suggest the need for physicians to be culturally sensitive to the particular needs of the immigrant female population they serve and to treat each patient within the context of her environment. (*Ethn Dis.* 2007;17:650–656)

**Key Words:** Cultural Background, Ethnicity, Health Behavior, Primary Care, Immigrants, Survey Methods, Women

From the Department of Family Medicine and Public Health Sciences, Wayne State University School of Medicine, Detroit, Michigan (TM, FD, AVN).

Address correspondence and reprint requests to Anne Victoria Neale, PhD, MPH; 101 E. Alexandrine; Detroit, MI 48201; 313-577-7680; 313-577-9828 (fax); vneale@med.wayne.edu.

Tsveti Markova, MD; Flora Dean, MD; Anne Victoria Neale, PhD, MPH

### Introduction

Family physicians and other primary care physicians often have patients who have emigrated from other countries and have different cultural backgrounds. In 2000, ethnic minorities, defined as groups of people sharing common ethnic, racial, or religious backgrounds, especially when constituting a comparatively small proportion of a given population, comprised 37.3% of the US population (n=46,951,595), with 17.9% speaking a language other than English at home.<sup>2</sup> The immigrant population continues to grow. In March 2003, the population in the United States included 33.5 million foreignborn individuals, representing 11.7% of the American population.<sup>3</sup> Among the immigrants, 53.3% were born in Latin America, 25% in Asia, 13.7% in Europe, and the remaining 8% in other regions of the world.<sup>3</sup>

The US Census Bureau 2003 Current Population Survey reported that 44.4% of our nation's immigrants live in a central city in a metropolitan area, compared to 26.9% of the native-born.<sup>3</sup> Certain immigrant populations are more likely to enter the United States with health problems resulting from environmental conditions and inadequate medical care in their homelands. Most reports of immigrant health status focus on tuberculosis and other infectious diseases. 4,5 Immigrants face health problems similar to those of other deprived and ethnic minority communities, as well as specific health problems from the physical and mental after-effects of displacement and social isolation, and communicable diseases. 6 Despite the higher level of poverty in immigrant populations,<sup>7</sup> a growing body of literature describes the "healthy migrant" phenomenon where first generation

immigrants are often healthier than the US-born residents who share similar ethnic and racial backgrounds.8,9 However, the immigrant health advantage diminishes dramatically with each successive generation and translates into a health disparity due to the effects of poverty and barriers to health care and social services. 10,11 Wright et al 2 advocate for sound methods of immigrant health needs assessment and discuss how results from such studies can be effectively used to promote public health. They state that distinguishing between individual needs and those of the wider community is important in the planning and provision of local health services. Thus, it is important to directly survey newcomer groups about their health status and health experiences. Cultural and socioeconomic environments deeply affect immigrant women at both family and individual levels. Some perceptions of health, wellness, and illness may not correspond to the cultural and religious beliefs of immigrant women, 13 and limited data exists pertaining to the healthcare attitudes and needs of women who have immigrated to the United States. Since most immigrants settle in metropolitan areas, studying patients at urban clinics can contribute significantly to physicians' knowledge and understanding of these specific populations.

We focused on Hamtramck, Michigan, a small city (land area of 2.11 miles),  $^{14}$  surrounded by the city of Detroit, with a 2000 census population of 22,976 $^{15}$  (see Figure 1). The city has a very young population, with 72% under the age of 45 years.  $^{15}$  This community has long been a magnet for eastern European immigrants and remains ethnically diverse, with recent immigrants from Europe, Asia, and Africa.  $^{16}$  According to the 2000 US Census, 41.1% (n=9,432) of Ham-

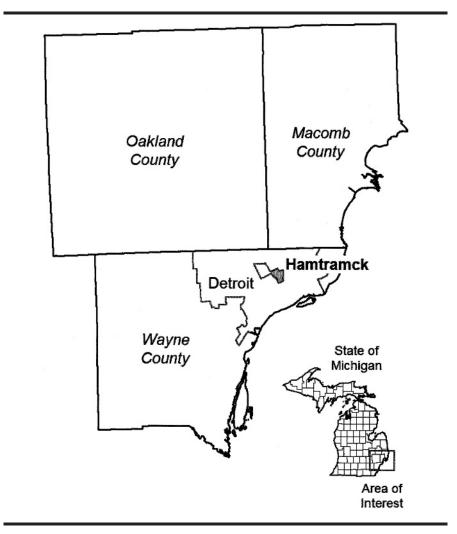


Fig 1. Map of Hamtramck (surrounded by the city of Detroit) in Wayne County Michigan.

tramck residents said they were born outside of the United States, and English is the only language spoken in less than half of the city's homes (45.6%).<sup>15</sup> Median house income in 2000 was reported as \$26,616.<sup>15</sup> Twenty-seven

With such a large influx of newcomers into this diverse area, we were interested in exploring immigrant health attitudes and behaviors related to health care. percent of all individuals in Hamtramck (compared to 12.4% in the United States) had income levels below the poverty level. In March 2001, it was estimated that 8,000 Bangladeshi immigrants had moved into the Hamtramck area and the nearby Detroit eastside during the previous 18 months. With such a large influx of newcomers into this diverse area, we were interested in exploring immigrant health attitudes and behaviors related to health care.

# **METHODS**

### Initial Feasibility Study

In an earlier feasibility study, we conducted a cross-sectional survey of the

medical history and functional health of women patients receiving primary care at a Hamtramck family medicine center (FMC) that serves a large immigrant population. We had limited success in interviewing immigrant women about their health history (15% of sample of 157 were immigrants) because of language barriers, cultural barriers to the interview process, and low interest in the study. The collected data was consistent with the existing literature indicating that these immigrants (11year average US residency) had few health differences compared with native-born women. Through this experience, we realized that the clinic serves a large Bangladeshi population, most with language barriers. Our new phase of the study was re-focused on the healthcare attitudes and utilization patterns of women receiving care at the same Hamtramck clinic with the objective to compare the responses of immigrant women with US-born women. Specifically, the study had the following objectives: 1) to assess attitudes about and satisfaction with health care in the United States and in the home country, for immigrants; and 2) to examine cross-cultural differences regarding healthcare utilization and communication with the physician.

### Study Sample

In the second phase of this study, we enrolled a convenience sample of 156 patients, particularly targeting women from Bangladesh. The study eligibility criteria were: female, age ≥18 years, able to understand English and/or written or spoken Bangla (the primary language in Bangladesh), and seeking primary care at a single FMC in Hamtramck Michigan. This FMC is a member of the MetroNet practice-based, research network and was selected as the study site because it was known to serve many immigrant patients.

# Study Design

This cross-sectional exploratory study used a self-reported questionnaire with

a convenience sample. A part-time female research assistant, bilingual in English and Bangla, approached women patients who were waiting in the FMC reception area and invited them to fill out the questionnaire. She was also available to read aloud the questionnaire if needed. Clinic staff (American and Bangladeshi) also recruited patients during times when the research assistant was not working. We were unable to collect any information on patients who declined to participate due to privacy protections.

# Description of the Instrument

The questionnaire was developed based on the work of Cave et al<sup>18</sup> who conducted a focus group study to explore cultural issues related to physician/patient communication and culturally sensitive health concerns with a sample of immigrant patients. Cave's study took place in two urban FMCs with a goal to formulate recommendations for facilitating communication during cross-cultural patient-physician interaction. We used the results from this report to guide the development of our questionnaire since we had similar study objectives and setting. The questionnaire was developed in two languages: English and Bangla. A professional language translation company was hired to translate the questionnaire and the patient information sheet into the Bangla language, and then translated it back into English to check for fidelity.

# Protection of Human Subjects

The study was approved by our university's institutional review board. The survey was anonymous and participation was voluntary. Each woman received a patient information sheet that described the study purpose. The participants' responses were kept confidential and were not included in the patients' medical records.

# **Data Analysis**

The quantitative data (primarily yes/ no responses) were summarized using

Table 1. Demographic characteristics of immigrant and US-born women

	US-Born (n=89) n (%)	Immigrant (n=67) n (%)	<i>P</i> -value
Age (SD)	47.1 (19.1)	31.9 (11.4)	.001
Years of US residency (SD)	44.5 (18.9)	8.6 (8.7)	.001
Primary language			.001
English	88 (98.9)	23 (34.3)	
Other	1 (1.1)	44 (65.7)	
Religious affiliation			.001
Baptist	43 (49.4)	1 (1.5)	
Catholic	18 (20.7)	1 (1.5)	
Islam	6 (6.9	62 (92.5)	
Other Protestant	8 (9.2)	0 (0.0)	
Other specified	8 (9.2)	3 (4.5)	
None	4 (4.6)	0 (0.0)	
Missing	2	0	
Full-time homemaker			.001
Yes	20 (22.5)	36 (53.7)	
No	69 (77.5)	31 (46.3)	
Full-time employment			.001
Yes	46 (51.7)	12 (17.9)	
No	43 (48.3)	55 (82.1)	
Annual household income			.001
< \$15,000	17 (20.7)	29 (49.2)	
\$15,000 - 24,999	24 (29.3)	20 (33.9)	
\$25,000 - 49,999	26 (31.7)	9 (15.3)	
> \$50,000	15 (18.3)	1 (1.7)	
Missing	7	8	
Any Health Insurance			.534
Yes	82 (96.5)	63 (95.5)	
No	3 (3.5)	3 (4.5)	
Missing	4	1	
Type of health insurance			
Private	16 (26.2)	2 (3.8)	.001
Medicare or Medicaid	19 (31.1)	33 (63.5)	
Other	26 (42.6)	17 (32.7)	
Missing	28	15	

proportions. *T*-test and chi-square tests were used to analyze differences between the women who were immigrants and those who were US-born. Qualitative examples of the verbatim responses to the open-ended questions are also included.

### RESULTS

# Sample Description and Immigrant Comparisons

Table 1 shows the demographic description of the study respondents. Of the 156 respondents, 67 (43%) were immigrants, and 89 (57%) were US-

born. The immigrants were primarily from three ethnicities: 61% were Bangladeshi; 21% were Yemeni; and 16% were of Bosnian/Yugoslavian heritage (data not shown). The immigrants had been in the United States for an average of 8.6 years (SD=8.7 years).

We compared the newcomers with the US-born groups on the descriptive background variables. The immigrant women were significantly younger than the US-born group (mean age of 31.9 years (SD=11.4) compared to 47.1 years (SD=19.1 years), respectively; P < .001). Only 34.3% of immigrants identified English as their prima-

ry language. Almost all (92.5%) of the immigrants identified Islam as their religion, compared to 7% of the US-born, who tended toward Christian religious preferences, with 49.4% Baptist; 20.7% Catholic; and 9.2% other Protestant. The immigrants were more likely to be working as homemakers (P<0.001), and less likely to have full-time employment (P<.001), compared with US-born patients.

About half (49.2%) of the immigrant respondents lived in households with income of less than \$15,000, compared to only 20.7% in the US-born group at this income level. Even though the immigrant population tended to report poverty-level incomes, there was a similarity in the rates of health insurance between the immigrant and US-born groups. There was a difference, though, in the type of insurance coverage, with the majority of the immigrant women (63.5%) having public insurance (ie, Medicare or Medicaid), as opposed to 31.1% of the US-born patients.

### **Immigrant-only Responses**

Immigrants were asked if health care in the United States differed from that in their home country: 54% answered affirmatively, and they were asked to specify in an open-ended format the ways that it differed. Given the small sample size, the responses are summarized here in a qualitative format. Responses fell into the following categories: 1) better care and treatments/ technology in the United States; 2) more doctors in the United States; 3) more research in the United States; and 4) payment differences (some said care was free in the home country, while others said cash was required to receive health care; indeed this would be expected to vary by country of origin).

Immigrants were also asked if they had been satisfied with health care in their home country: 30% said no; and they were asked to explain their answer. The following types of answers were given: "I couldn't afford it"; "We didn't

Table 2. Health care attitudes and behaviors of immigrant and US-born women

	US-born (n=89) n (%)	Immigrant ( <i>n</i> =67) <i>n</i> (%)	<i>P</i> -value
Satisfaction with US healthcare			.047
Yes	50 (72.5)	55 (88.7)	
No	12 (17.4)	3 (4.8)	
No opinion	7 (10.1)	4 (6.5)	
Missing	20	5	
Culture/religious preference for doctor			.001
Yes	5 (6.9)	19 (31.1)	
No/does not matter	67 (93.1)	42 (68.8)	
Missing	16	6	
Preference for female doctor			.001
Yes	15 (18.3)	27 (43.5)	
No/does not matter	67 (81.7)	35 (56.5)	
Missing	7	5	
Language/culture barriers with doctors			.001
Yes	10 (12.5)	24 (40.0)	
No	70 (87.5)	36 (60.0)	
Missing	9	7	
Ever brought person to help communicate			.001
Yes	3 (3.7)	39 (60.9)	
No	79 (96.3)	25 (39.1)	
Missing	7	3	
Visit doctor every time sick			.001
Yes	25 (31.3)	46 (73.0)	
No	55 (68.8)	17 (27.0)	
Missing	9	4	

have any"; "It takes a long time" or "It was very slow"; "Technology was not as good"; "Unable to obtain regular health care in home country."

When asked if they had been satisfied with their doctor in their home country, only 25% said no. When these respondents were asked to explain their dissatisfaction, they gave the following types of responses: "She didn't tell me what I needed to know"; "I did not have a regular doctor"; "They don't have all the supplies like here."

The few immigrant respondents who were not satisfied with the US health care system or with US physicians cited high costs of medications, lack of communication, unfair treatment toward the poor/uninsured and doctor's poor listening skills.

## **Cross-Cultural Comparisons**

All respondents were asked if they were satisfied with US health care

(Table 2). Immigrant patients tended to be more satisfied overall with the healthcare system, compared with native-born patients (88.7% vs 72.5%; P<.001). Immigrants cited better care and better technology as the source of their satisfaction, while out-of-pocket cost was the major complaint among US-born respondents. The immigrants were more likely to express a preference for physicians of the same cultural backgrounds (P<.001) and for a woman physician (P < .001). Once in the office, the immigrant group perceived barriers in language and culture. They differed from the US-born in their propensity to bring family and friends to their office visits to help alleviate communication concerns (P<.001). In engaging with the healthcare system, the immigrant respondents also differed by stating that they visited their doctor's office every time they were sick (73% of immigrants vs 31% of native-born; P < .001).

### **DISCUSSION**

Immigrants to the Unites States are a growing and diverse population. By 2050, it is estimated that the racial/ethnic minorities will make up approximately 50% of the US population. As this fundamental shift occurs, greater research and information is needed about women immigrants, particularly regarding their healthcare needs and attitudes. We found that newcomers were a younger group of people, who often depended on their friends and families when they access the healthcare system.

With an average length of residence in the United States of 8.6 years, the immigrants who participated in our study already had some acculturation to the United States, thus diminishing some of the cultural and social differences between the groups that were likely initially more pronounced. Leclere et al<sup>7</sup> examined healthcare utilization patterns of immigrants and nativeborn adults using the 1990 National Health Interview Survey Supplement on Family Resources. They found that the duration of residence had a very strong effect. Recently arrived immigrants were less likely to have had healthcare contact in the previous year and had fewer contacts than native-born or longerterm immigrants. Immigrants who had been in the United States more than 10 years were not statistically different from the native born.<sup>7</sup>

The economic circumstances of immigrants are closely related to their access to the formal medical healthcare system. Similar to the research reported by Leclere et al, the immigrants in our study were more likely to be poor, less likely to have private insurance, and more likely to receive Medicaid than their US-born counterparts. We found that the rates of insurance coverage were similar in the two groups, but the majority of the immigrant women had public insurance. With their younger average age, the women immigrant

patients may have had greater access to Medicaid for prenatal care.

The inner-city US-born patients reported less satisfaction with our healthcare system compared to immigrant patients. Various immigrant respondents cited better care and better technology as the source of their greater satisfaction with US healthcare. The immigrant respondents were more likely to use physicians as a first source of health care every time they were sick. Our findings are not congruent with other published reports that immigrant women underused health care. 19 This difference might be explained by the fact that many immigrant patients visited the FMC for prenatal care, and perhaps were more sensitive to the importance of regular medical care.

Not surprisingly, immigrant women differ from the US-born in their perception of linguistic and cultural barriers in the healthcare setting. These barriers often prompt immigrants to bring family or friends along to the office visit to help in the communication process. Similar findings have been described qualitatively in the literature,<sup>20</sup> suggesting that family and social support play an important role in how and when immigrant women seek health care. 17,20 The presence of family members may facilitate a patient's ability to understand and express healthcare concerns. In addition, others have reported that doing so can create an environment where the woman was uncomfortable with expressing health concerns of a personal and private nature and preferred a professional interpreter. 20,21

Despite the fact that English-speaking physicians will be less likely to provide patient-centered encounters to patients requiring an interpreter, <sup>22</sup> it is difficult to compare such a visit with an encounter where there is a language barrier and an interpreter is not available. Overall, the literature <sup>21–24</sup> has demonstrated the positive impact of professional interpreters on patient-

physician interaction. In an emergency department, patients' understanding of discharge directions and diagnosis was improved when interpreters were used.<sup>23</sup> Physicians with access to trained interpreters reported a significantly higher quality of patient-physician communication than physicians who used other methods.<sup>24</sup> Patients also considered the quality of interpreter services to be very important. They preferred using professional interpreters rather than family members, and preferred sexconcordant translators. Furthermore, they expressed the need for help in navigating healthcare systems and obtaining support services.<sup>21</sup> Our study suggests that immigrant women were likely to perceive that language or cultural background was a barrier when visiting a physician. We found a stronger desire for physicians from a similar background in the immigrant population. Ferguson<sup>25</sup> found consistent evidence that race, ethnicity and language have substantial influence in the quality of the doctor-patient relationship. Minority patients, especially those not proficient in English, are less likely to engender sympathetic response from physicians, to establish rapport with physicians, to receive sufficient information, and to be encouraged to participate in medical decision-making.<sup>25</sup> Effective communication can improve outcome measures like patient satisfaction, adherence to treatment, and disease outcomes.26

These findings correspond to the recent emphasis in undergraduate and graduate medical education on cultural competency. The US Accreditation Council for Graduate Medical Education requires all residency programs to have a systematic approach to teaching their physicians-in-training in the area of cultural competency. The Cross et al 29 outline a philosophical framework for developing and implementing a service delivery system that provides services in a culturally appropriate way in order to meet the needs of culturally and racially

diverse groups. They also developed a comprehensive cultural competence model that can be used to assist healthcare professionals to work effectively in cross-cultural situations. Various methods are described in the literature for teaching and evaluating physicians-in-training in interpersonal and communication skills<sup>30,31</sup> For physicians to learn the aspects of each culture that could influence the medical encounter is an impractical solution because cultural groups are very heterogeneous. In addition, individual members manifest different degrees of acculturation, making it difficult and even counterproductive to "teach" a culture as a whole. A patient-centered, more unified approach is needed in which the physician treats each patient as an individual, within the context of his or her environment.<sup>32</sup> Medical education must emphasize teaching physicians the skills to explore the meaning of the illness, to determine the patient social context, and to be able to facilitate the process of cross-cultural communication.

### Limitations

This study is limited by the small number of respondents in the participating ethnic groups, making it inappropriate to make specific comparisons between ethnic groups. Thus, we compared all immigrant respondents with all of the US-born respondents. Furthermore, with an average of more than 8 years living in the United States, these immigrants were not inexperienced with the US healthcare system, which reduced our ability to compare the findings from this study with many other studies of health status and healthcare needs of more recent immigrants.

Another important limitation of this study was that the data were collected in only one primary care clinic that served a multi-ethnic immigrant population, and the results may not be generalizable beyond the specific geographic region

and unusual population in which the study was conducted. We were not able to determine refusal rates because clinic staff did not track the number of refusals. In studying immigrant populations, language is often a barrier. Anticipating a large Bangladeshi immigrant sample, the surveys were written in English and Bangla. However, there were also immigrant respondents who communicated primarily in other languages. Thus, we may not have captured the responses of other immigrant groups as accurately as those of the Banglaspeaking women. These language differences may limit the accuracy and precision of the self-reported responses.

### **CONCLUSIONS**

Immigrant women patients are more likely to experience difficulty with language and cultural barriers and often depend on their families and friends for interpretation and social support during the physician-patient encounter. They also prefer to see female physicians and physicians from the same ethnic background. Despite these challenges, they are more satisfied with the US healthcare system than the US-born patient participants. Teaching is needed in physician training programs to address cultural competency issues. Physicians must avoid stereotyping whole populations as homogeneous, but work to build their confidence in exploring and understanding each patient's perspective. Physicians trained in the patient-

Despite ... challenges, they [immigrant women] are more satisfied with the US healthcare system than the US-born patient participants.

centered clinical approach will be able to provide compassionate, comprehensive medical care in the context of the patient's family and community.

### **ACKNOWLEDGMENTS**

This study was funded by grants from the Michigan Consortium for Family Practice Research, and DHHS HRSA (D12 HP00175). We thank Mr. Justin Northrup for his assistance in the study development and Mr. Jason Booza for creating the map in the figure. MetroNet is a metropolitan Detroit practice-based research network, a program of the Department of Family Medicine and Public Health Sciences at Wayne State University.

### REFERENCES

- MSN Encarta Encyclopedia. Definition of "ethnic minority." Available at: http://encarta. msn.com. Last accessed: 8/29/2007.
- US Census Bureau. Census 2000 Demographic Profile Highlights. Available at http://factfinder. census.gov/servlet/SAFFFacts? Last accessed: 8/29/2007.
- US Census Bureau. The Foreign-Born Population in the United States: 2003. Available at http:// www.census.gov/population/www/socdemo/ foreign/cps2003.html. Last accessed: 8/29/2007.
- 4. Smith LS. Health of America's newcomers. J Community Health Nurs. 2001;18(1):53–68.
- Flaskerud JH, Kim S. Health problems of Asian and Latino immigrants. Nurs Clin North Am. 1999;34(2):359–380.
- 6. Fassil Y. Looking after the health of refugees. *BMJ*. 2000;321(7252):59.
- Leclere FB, Jensen L, Biddlecom AE. Health care utilization, family context, and adaptation among immigrants to the United States. *J Health Soc Behav.* 1994;35(4):370–384.
- 8. Rumbaut R. Paradoxes of assimilation. *Social Perspect.* 1997;40(3):483–511.
- Stephen EH, Foote K, Hendershot GE, Shoenborn CA. Health of the foreign-born population: United States, 1989-1990. Adv Data, 1994;(241):1–12.
- Institute of Medicine. SmedleyB, StithA, NelsonmA, eds. Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care. Washington, DC: National Academies Press; 2003.
- 11. Razum O, Zeeb H, Rohrmann S. The "healthy migrant effect" not merely a fallacy of inadequate documentation of figures. *Int J Epidemiol.* 2000;29:191–2.
- Wright J, Williams R, Wilkinson JR. Development and importance of health needs assessment. BMJ. 1998;316(7140):1310–1313.
- 13. Oxman-Martinez J, Abdool S, Loiselle-Leonard M. Immigration, women and health in

### **IMMIGRANT WOMEN IN HAMTRAMCK** - Markova et al

- Canada. *Can J Public Health*. 2000;91(5): 394–396.
- US Census. Census Data and Maps for Hamtramck, Michigan. Available at http:// www.hometownlocator.com/PlaceDetail.cfm? SCFIPS=26163&City=Hamtramck. Last accessed: 8/29/2007.
- 15. US Census. Hamtramck, Michigan. Census 2000

  Demographic Profile Highlights. Available at:
  [http://factfinder.census.gov/servlet/SAFFFacts?
  \_event = Search & geo\_id = 01000US&\_
  geoContext=01000US&\_street = &\_county=
  hamtramck&\_cityTown=hamtramck&\_state].
  Last accessed: 8/29/2007.
- French R, Kozlowski K. Cultures collide in diverse Hamtramck. *Detroit Free Press*. April 26, 2004.
- 17. Kershaw S. Queens to Detroit: A Bangladeshi passage. *New York Times*. March 8, 2001.
- Cave A, Maharaj U, Gibson N, Jackson E. Physicians and immigrant patients. Crosscultural communication. *Can Fam Physician*. 1995;41:1685–1690.
- Weitzman BC, Berry CA. An illusion of the needs of working poor immigrant women. Women Health. 1992;19(2-3):87–105.
- Meadows L, Thurston W, Melton C. Immigrant women's health. Soc Sci Med. 2001; 52(9):1451–1458.
- 21. Ngo-Metzger Q, Massagli MP, Clarridge BR, Manocchia M, Davis RB, Iezzoni LI, Phillips

- RS. Linguistic and cultural barriers to care. *J Gen Intern Med.* 2003;18(1):44–52.
- Perez-Stable EJ, Napoles-Springer A. Interpreters and communication in the clinical encounter. Am J Med. 2000;108(6):509–510.
- Baker DW, Parker RM, Williams MV, Coates WC, Pitkin K. Use and effectiveness of interpreters in an emergency department. *JAMA*. 1996;275(10):783–788.
- Hornberger J, Itakura H, Wilson SR. Bridging language and cultural barriers between physicians and patients. *Public Health Rep.* 1997;112(5):410–417.
- Ferguson WJ, Candib LM. Culture, language and the doctor-patient relationship. Fam Med. 2002;34(5):353–361.
- Stewart MA. Effective physician-patient communication and health outcomes: A review. CMAJ. 1995;152(9):1423–1433.
- Long D. Competency-based residency training: The next advance in graduate medical education. Acad Med. 2000;7(12):1178–1183.
- Accreditation Council for Graduate Medical Education. Outcomes Project: Enhancing residency education through outcomes assessment. Available at: http://www.acgme.org/ outcome/comp/compHome.asp. Last accessed: 8/29/2007.
- Cross TL, Bazron BJ, Dennis KW, Isaacs MR. Toward a Culturally Competent System of Care, Volumes 1 and 2. Washington, DC: National

- Institute of Mental Health, Child and Adolescent Service System Program (CASSP) Technical Assistance Center and the Georgetown University Child Development Center; 1999.
- 30. Office of Minority Health. Assuring Cultural Competence in Health Care: Recommendations for National Standards and Outcomes-Focused Research Agenda. Recommended Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health Care Services. Prepared for the US Department of Health and Human Services. Washington, DC; 1999.
- Duffy FD, Gordon GH, Whelan G, et al. Assessing competence in communication and interpersonal skills: The Kalamazoo II Report. Acad Med. 2004;79(6):459–507.
- Carrillo JE, Green AR, Betancourt JR. Crosscultural primary care: a patient-based approach. Ann Intern Med. 1999;13(10):829–834.

### **AUTHOR CONTRIBUTIONS**

Design concept of study: Dean, Neale Acquisition of data: Markova, Dean, Neale Data analysis and interpretation: Markova, Neale

Manuscript draft: Markova, Neale Statistical expertise: Dean, Neale Acquisition of funding: Dean, Neale Administrative, technical, or material assistance: Neale