

### NIH Public Access

Author Manuscript

J Health Care Poor Underserved. Author manuscript; available in PMC 2013 August 26

Published in final edited form as:

J Health Care Poor Underserved. 2012 May ; 23(2): 651–665. doi:10.1353/hpu.2012.0052.

### Provider's Perspectives on the Impact of Immigration and Customs Enforcement (ICE) Activity on Immigrant Health

Karen Hacker<sup>1,2,3</sup>, Jocelyn Chu<sup>1,2</sup>, Lisa Arsenault<sup>1,2</sup>, and Robert P. Marlin<sup>2,3</sup>

<sup>1</sup>Institute for Community Health, Cambridge Health Alliance, Cambridge, MA

<sup>2</sup>Harvard Medical School, Boston, MA

<sup>3</sup>Department of Medicine, Cambridge Health Alliance, Cambridge, MA

<sup>4</sup>University of Texas, School of Public Health

#### Abstract

**Introduction**—Increasing Immigration and Customs Enforcement (ICE) activities such as raids, detention and deportation may be affecting the health and well-being of immigrants. This study sought to understand the impact of ICE activities on immigrant health from the perspective of health care providers.

**Methods**—An online survey of primary care and emergency medicine providers was conducted to determine whether ICE activity was negatively affecting immigrant patients.

**Results**—Of 327 providers surveyed, 163 responded (50%) and 156 (48%) met criteria for inclusion. Seventy-five (48%) of them observed negative effects of ICE enforcement on the health or health access of immigrant patients. Forty-three providers gave examples of the impact on emotional health, ability to comply with health care recommendations and access.

**Conclusions**—Health care providers are witnessing the negative effects of ICE activities on their immigrant patients' psychological and physical health. This should be considered an important determinant of immigrant health.

#### Keywords

Immigrant health; deportation fear; Immigration and Customs Enforcement; providers' perspectives

In the last two decades, Immigration and Customs Enforcement (ICE) efforts have intensified nationally and locally in the U.S. After the passage of the Illegal Immigration Reform and Immigrant Responsibility Act (IRRIRA) of 1996, detention of undocumented mmigrants increased and the categories for persons subject to detention expanded along with the types of crimes for which noncitizens could be deported.<sup>1</sup> Activities such as workplace raids, detention and deportation have increased annually since 2007.<sup>2</sup> The current climate of

Corresponding Author: Karen Hacker, MD, MPH, Institute for Community Health, Cambridge Health Alliance, 163 Gore Street, Cambridge, MA 02141, Phone 617-499-6681, Fax 617-499-6665. Khacker@challiance.org.

Karen Hacker, MD MPH is an Associate Professor at Harvard Medical School and the Executive Director of the Institute for Community Health at the Cambridge Health Alliance whose research focuses on community based participatory research and immigrant health. Jocelyn Chu, Sc.D., MPH, is a Lecturer at Harvard Medical School and a Research Associate at the Institute for Community Health, Cambridge Health Alliance who focuses on community based participatory research with multiple partners. Lisa Arsenault, Ph.D. is an Instructor at Harvard Medical School and Epidemiologist at the Institute for Community Health, Cambridge Health Alliance and has expertise in quantitative methods and analysis. Robert P. Marlin is an Instructor at the Harvard Medical School and a physician in the Department of Medicine at Cambridge Health Alliance who focuses on immigrant health.

immigration enforcement in the U.S. is exemplified by Arizona immigration law SB1070 and Section 287(g) agreements, which allow local law enforcement officials to carry out enforcement of federal immigration law and most recently, the "Secure Communities" program that allows sharing of local law enforcement information with ICE.<sup>3–4</sup>

Immigration enforcement policies related to detention and health care access are known to influence the health of immigrants. For example, the negative effect of detention and temporary status on the mental health of asylum seekers has been well documented in Australia, Japan, and Europe.<sup>5–7</sup> In addition, studies on the sequelae of policies that limit immigrants access to health care have been documented in Germany, Spain and Canada among other countries.<sup>8–10</sup> In the U.S., however, the effects of ICE activity on immigrant stress levels and health status have only recently been examined.<sup>11–13</sup> Studies on the impact of Proposition 187, a 1994 California ballot initiative that prevented undocumented immigrants from accessing publicly funded health care, found that immigrants feared obtaining medical care, delayed health care and discontinued treatment for communicable diseases such as tuberculosis.<sup>14–17</sup> Deportation fear has also been associated with poorer self-perceived health and activity limitation following ICE raids <sup>13, 18</sup> and with emotional distress for both documented and undocumented immigrants.<sup>13, 19</sup> Similarly, it is likely to impact health outcomes.<sup>20, 21</sup> U.S. immigrant families are already at high risk for limited access to health care in part due to their inability to obtain health insurance for themselves and their children. Factors such as their own lack of knowledge, their immigration status, confusion about rules and regulations, bureaucratic issues and perceptions of discrimination exacerbated their limited access to health care.<sup>22</sup>

Health care providers play an important role in ensuring health and health care access for immigrant populations. Since immigrants have known high utilization rates of both primary care community health centers and emergency departments (ED), <sup>23</sup> providers in these settings (primary care providers (PCPs) and emergency medicine providers (EMPs)) are likely to identify the impact of changes in immigration enforcement on their patient populations. This knowledge is critical for assessment and treatment of this population, but awareness in the provider community may be lacking.<sup>24</sup> In addition, it is possible that PCPs and EMPs have differing perceptions and awareness of these issues due to a variety of factors that influence doctor-patient communication (eg, gender, discipline, and site of care (primary vs emergency)). <sup>25–29</sup> To date, there have been few studies that assess how or whether providers perceive the impact of ICE on their patients<sup>-22</sup>

Given that immigrants make up over 13% of the US population and 10.7 million of them are undocumented there is a pressing need to understand the impact of the current enforcement climate on immigrants' health and well-being.<sup>30, 31</sup> Obtaining the perspectives of providers who care for large immigrant populations can help elucidate the mechanism whereby ICE activity impacts health and health access. Therefore, this study aims to determine the impact, if any, of ICE activities on immigrant health from the perspective of health care providers (EMPs and PCPs) who care for immigrant patients from Everett, a city with the fouth largest concentration of immigrants in Massachusetts. <sup>32–34</sup>

#### Methods

#### Setting

In Everett, rising concerns about the impact of ICE activities on immigrant health emerged in 2008 when health care providers and advocates reported immigrants missing health appointments due to their fear of being stopped en route by police and reported to ICE. This followed an increase in raids and deportations in the region<sup>35</sup> as demonstrated by the New Bedford raid in March of 2007, which was highly publicized and may have heightened fear

in Massachusetts immigrant communities.<sup>11</sup> In partnership with an established coalition of Everett immigrant and civic leaders, a community based participatory research project to explore the impact of enhanced immigration enforcement on immigrant health was undertaken. Various perspectives, including those of immigrants themselves, civic leaders and local providers, were garnered and are reported elsewhere.<sup>36</sup> The perspective of the medical community was considered paramount in understanding how immigration enforcement activities actually impacted health and well-being and primary care providers practicing in community health centers and emergency medicine providers based in hospital emergency departments (EDs) were seen as key sources of information on the issue given their contact with immigrant populations.<sup>23</sup>

Everett is a community of 37,000 which has seen rapid diversification in recent years. Between 1990 and 2000 the city of Everett experienced a 164% increase in the Hispanic population, a 121% increase in the black population and a 12% decrease in the white population. The foreign born population increased by over 50% from 2000 to 2010, with black and Hispanic populations rising by over 200% <sup>37</sup> The largest immigrant groups are from Brazil, Central America (including Guatemala and El Salvador), Haiti, and various African countries. Over 40% of the public high school population speaks a language other than English at home.<sup>38</sup>

#### Population studied

The population studied was PCPs and EMPs in the two largest health care systems serving Everett: the Cambridge Health Alliance (CHA) and the Massachusetts General Hospital (MGH). These Harvard Medical School affiliated health care systems operate community health centers highly utilized by immigrant populations in Everett and neighboring communities. They also operate the closest EDs to the Everett community. CHA has 11 primary health centers and practices and 3 EDs while MGH has one ED and 3 health centers all in close proximity to Everett. This represented on average 71% of all PCPs and 66% of all EDs in Everett and surrounding communities (Chelsea, Malden, Revere, Somerville and Cambridge).

Providers targeted for participation were PCPs at CHA or MGH health centers including pediatricians, family physicians and internal medicine providers and EMPs in MGH or CHA emergency departments. Lists of physicians, nurse practitioners and physician assistants and their email addresses were supplied by the ambulatory and ED leadership from both institutions and via online lists at CHA (total N=327). CHA human subject approval was received in February 2009.

**Data collection**—The survey was designed as an anonymous online tool that included both close and open-ended questions. The primary questions focused on providers' perceptions of the effects of ICE activities on both health and health care access: "Have you observed any negative effects from local enforcement of federal immigration policies on the health (health care access) of your immigrant patients?" Health was defined in the survey as "an individual's state of physical and mental well-being." Health care access was defined as 1) having health insurance, 2) having access to specialists and 3) being able to attend appointments (proximity of care and/transport). The survey also asked providers to share narrative examples of observed negative effects.

The survey link was emailed directly to all PCPs and EMPs, with the exception of MGH ED providers, who received the link via email from the MGH ED Director sent to all department members. The link was emailed four times between June and September 2009 to insure an adequate response.

**Measures**—The main dependent variables were the two ICE impact questions (health and health access) and the responses were categorical: Yes, No, or I don't know. Providers answering affirmatively were asked to indicate which specific patient populations, from a given list, have been most affected: mental health patients, patients with chronic disease, children less then five years old, teenagers, pregnant women, and other. Other independent variables included gender, site of practice (MGH or CHA), clinical service provided (Primary care/Emergency care), caring for immigrants residing in Everett, and caring for undocumented immigrants. Providers were also asked to indicate which regions of the world their immigrant patients originally came from. Regions included on the survey were Brazil, Haiti, Africa, Europe, East Asia, South Asia, Central/South America (not including Brazil), the Caribbean (not including Haiti), Mexico, among others. A continuous variable capturing the diversity of a provider's immigrant patient population was created by summing the number of regions selected (range 0 to 10).

**Analysis**—Preliminary analyses (chi-square tests) were first performed to compare site and clinical service provided between the final survey sample and those who declined to participate. Univariate analyses were then conducted for all variables and descriptive statistics (frequencies, percents, medians, ranges) were reported. Bivariate analyses (chi-square tests for categorical variables and Wilcoxon rank-sum tests for continuous variables) were conducted to determine the associations between each independent variable and the dependent variables. The relationship between the two dependent variables was also explored using Spearman correlations. Multivariate logistic regression models were then used to determine which of the independent variables were performed using SAS® software, version  $9.1.^{39}$  Statistical significance was determined by p-values < 0.05.

Qualitative analyses were conducted on the narrative examples provided by those providers who indicated that they had observed a negative effect on health or health access. Three members of the research team independently conducted thematic analyses on the data and then developed the final codebook as a group. Subsequently, members used the codebook to code data independently and finalized the interpretation as a group.

#### Results

Of the 327 providers surveyed, 163 responded (49.4%) and 156 (48%) were included in analysis. Seven surveys were excluded due to missing data. The proportion of MGH providers was found to be similar to the total group surveyed (44% of sample vs. 36% of total, P=0.11). The proportion of PCPs was also similar in both groups (68% of sample vs. 69% of total, P=0.80). Stratification further confirmed the proportion of PCPs was similar within each site (CHA: 76% of sample vs. 78% of total, P=0.80; and MGH: 55% of sample vs. 57% of total, P=0.76).

The descriptive characteristics of the final sample are presented in Table 1. While 92% of providers took care of immigrant patients, 33% did not know their immigration status. A total of 75 providers (48%) indicated a negative impact on either health or health status of their immigrant patients (40% on health and 33% on health access). These observations were highly associated with one another (Rho=0.50, p<0.0001).

In preliminary bivariate analyses, more CHA providers were PCPs compared to MGH (75.9% vs. 57.4%; P=0.01), and while PCPs were more likely to be female compared to ED providers (63.2% vs. 36.8%; P<0.01), the overall proportion of female providers was similar between the sites (51.5% CHA vs. 48.5% MGH; P=0.46). Providers that observed negative effects of ICE activities on health or health access (Table 2) were more likely to be PCPs,

female, and practicing at CHA, and more often indicated that they cared for undocumented immigrants.

After adjustment for the other independent variables, female providers were more likely to observe negative impacts of ICE activities on both health and health access, as were CHA providers (Table 3). PCPs were over 12 times as likely to note a negative impact on immigrant health compared to EMPs and PCPs were 4 times as likely to note a negative impact on immigrant health care access compared to EMPs. Finally, providers indicating they cared for undocumented immigrant patients were nearly 4 times as likely to note a negative impact on health and over 8 times as likely to note a negative impact on health care access.

Qualitatively, of those observing negative impacts of ICE on either health or health access, 57% (N=43) provided specific examples. Four salient themes emerged from these narratives centered on the fear of deportation: 1) deportation fear impacted emotional health; 2) deportation fear led to interrupted care; 3) familial separation resulting from detention and/ or deportation affected health and well-being and 4) deportation fear also created perceived barriers to access.

Over 40% of responses referred to "stress", "fear," and "anxiety" in their patients resulting from the threat of deportation.

A few months ago I saw a patient with post traumatic stress disorder whose husband was picked up in one of the raids. She was very reluctant to come out of the house to the clinic for fear of being stopped by the police. Her symptoms of anxiety, insomnia had worsened significantly.

Examples detailed how ICE activity and the resulting fear of deportation led to interrupted medical care.

At the time of the raids in New Bedford, some patients did not come for follow-up visits. Fear of getting deported keeps all these folks away – also even folks with green cards are afraid of losing their insurance now and have stopped getting necessary treatments.

Children miss their Well Child appointments because their parents are afraid of immigration services.

A case comes to mind of a young man badly injured in a work accident. As soon as he was conscious, but still badly injured, he tried to leave the hospital because he was so fearful of being discovered and deported.

I have a toddler (patient) whose father was in jail for immigration and the patient was living with friends of the father. During this period of time, the toddler missed well child checks and now has speech delay.

I see patients with longstanding anxiety disorders who have been forced to remain "on the move" as a result of immigration policies. As such, they have not been able to maintain a stable mental health provider.

Responses described the impact of deportation of loved ones on patient's emotional and physical health, as well as the financial burden created by additional responsibilities.

I saw a...couple from El Salvador whose son had been marked to be deported. The (woman) is a diabetic/cardiac patient; her blood sugar was out of control, her blood pressure was out of control.

(My patient)...from Uganda with HIV/AIDS and end stage renal disease was unable to consistently keep appointments for dialysis because she needed to work to support her sister's two children after (her) sister was arrested by immigration.

Concerns about ICE and deportation were also seen as obstacles to health care access. Patients feared that providing any documentation for insurance enrollment purposes would risk exposure. It is important to note that in MA, undocumented immigrants have access to the Health Care Safety Net, a state funded program. This is often mistakenly considered health insurance as it requires documentation for enrollment.

Patients (are) afraid to apply for insurance or accept visiting nurses for fear they will be reported.

I also know some of my immigrant patients are nervous about getting needed services and avoid giving information about their true identity, which often impacts health (difficult getting old records when patient uses another name).

Overall, the examples helped to depict how ICE activity had negative emotional and physical consequences for immigrant patients.

#### Discussion

This study of providers who care for immigrants found that over 40% reported negative health effects of ICE activities on their immigrant patients. However, the remainder, most of whom were caring for immigrant patients did not identify negative impact despite national and local media coverage of the subject. As per the examples provided, ICE presence in the community led to increased fear of deportation, not only among undocumented immigrants, but also among their US citizen children and networks of families and friends. This pervasive fear led to health care avoidance, stress and anxiety, all of which have profound effects on physical and mental health. While the impact of deportation fear has been reported elsewhere, <sup>15, 16</sup> this is one of the first studies to find that health providers identified sequelae of this environmental stressor in their patients.

As predicted, there were differences noted between EMPs and PCPs. Primary care provider were far more likely to identify negative effects of ICE on their patients compared to ED providers. There are several questions that this raises; are PCPs better at eliciting this information than EMPs or are immigrant patients more likely to reveal this information to PCPs? PCPs are well-trained in taking social histories and are thus well positioned to identify and address social factors related to health and improve health disparities.<sup>40–43</sup> In contrast, EMPs are focused on urgent issues and may not obtain this type of information. So too, while many immigrants utilize EDs for care, it may be a difficult environment to discuss social and behavioral stressors given the acuity of the visit and the issues of ED flow. <sup>29</sup> Overall, the establishment of patient-doctor trust is critical for the communication of sensitive information of a sensitive nature. And while this relationship is valued in both primary care and ED, it may be differentially expressed to and by patients. Things like privacy, time availability, ambient noise level and other contextual factors are likely to influence what a patient will share, where and when. Further research is needed to explore these variations.

We also found that female providers were more likely to identify issues related to immigration enforcement than male providers. This is not surprising given that female physicians have been shown to spend more time in psychosocial counseling and do more preventive visits than their male counterparts.<sup>25</sup> Additionally, despite information in local and national media, 33% of providers did not know their patients' immigration status and more than half the providers did not identify a negative impact of immigration enforcement

on their patients. Taking care of undocumented immigrants was highly correlated with reporting negative effects, as would be expected, but of concern is the number of providers that were unaware of their patients' immigration status. It is unknown whether this is due to patient-doctor communication issues, urgency of visit, or lack of provider knowledge. Further research is needed to better understand this finding and educational efforts to raise provider awareness are merited.

The narrative examples gathered in this survey provide a window into the effect that deportation fear, as a form of chronic stress has on both emotional well-being and physical symptomatology. In addition, as reported elsewhere, deportation fear can result in care avoidance since authorities are perceived as threats for exposure of immigration status. <sup>15, 16, 18</sup> Flight behaviors such as frequent moves also make it hard to contact patients to insure that recommendations on health conditions are met, leading to exacerbation of chronic conditions such as diabetes and hypertension. In other situations, the deportation of a single member can cause undue financial strain, tipping the balance of an already susceptible family and affecting children. This phenomena has been noted following large scale immigration raids.<sup>44</sup> More importantly, this chronic fear impacts trust in "the system" - including the "health care system" - and ultimately can lead to social isolation and the social cohesion of neighborhoods and communities. Thus, the health of the already vulnerable immigrant population <sup>45</sup> is placed at further risk. <sup>46, 47</sup>

#### Recommendations

Based on study results providers should be encouraged to;

- Consider how the current climate of immigration enforcement and the resulting deportation fear might impact their health and health access. Understanding how individuals are coping with this uncertainty (are they coping at all? How is stress impacting their relationships? Their daily lives?) and how this impacts their financial stability can assist the provider in treatment planning.
- Understand the realities of access to health care and various entitlements in their area. Short training programs have been shown to improve pediatric resident's knowledge. <sup>22</sup>
- Ensure that the clinical environment is seen as safe. This could be accomplished with visual cues (notifications that explain confidentiality rules), by office staff or by the providers themselves.
- Utilize strategies that clarify security within the health care system that might involve communication with places frequented by immigrants: churches, ethnic grocery stores and restaurants, social service agencies etc.

#### Limitations

This study has several limitations. First it is focused on a local sample which potentially limits its generalizability. Second, since we did not ask about frequency, we are unable to know when the providers saw the cases they described or how frequently they encountered these types of issues. We also used a question that focused on "negative" impact and this may have slanted responses in some way. However, this exploratory study provides some insight into provider perspectives on the impact of ICE and the mechanisms by which immigration enforcement activities affect the health of the immigrants they care for.

#### Conclusion

Both primary care and emergency medicine providers are uniquely positioned to monitor the impact of immigration enforcement on the health of their immigrant patients. By virtue of

the examples collected, it is clear that deportation fear affects both documented and undocumented population. As immigration enforcement intensifies and programs such as "Secure Communities" are implemented providers may see more consequences among their immigrant patients. Unfortunately, this context portends poorly for the use of preventive and primary care as fear of deportation may further dissuade an already vulnerable population from obtaining needed health care, producing further health inequities. Consequently, primary care providers may see fewer immigrants and emergency medicine providers may see higher acuity in their immigrant patients.

As U.S. demography continues to shift towards a minority majority, we must consider ways to help immigrants integrate and thrive in all communities. Health care providers play a vital role in providing safe spaces to address these issues. In order to do this thought, they must first be aware that these issues exist.

#### Acknowledgments

This work was conducted with support from Harvard Catalyst | The Harvard Clinical and Translational Science Center (NIH Award #UL1 RR 025758 and financial contributions from Harvard University and its affiliated academic health care centers). The content is solely the responsibility of the authors and does not necessarily represent the official views of Harvard Catalyst, Harvard University and its affiliated academic health care centers, the National Center for Research Resources, or the National Institutes of Health. We also wish to acknowledge the many members of the Everett community who gave feedback on the survey and provided important insight into the health consequences of immigration enforcement

#### References

- 1. Miller TA. Blurring the boundaries between immigration and crime control after September 11th. Boston College Third World Law Journal. 2005; 25(1):1–43.
- 2. U.S. Immigration and Customs Enforcement. ICE Fiscal Year 2008 Annual Report. Washington, D.C: U.S. Immigration and Customs Enforcement; 2009.
- 3. Rodriguez, C.; Chishti, M.; Capps, R.; StJohn, L. A program in flux: New priorities and implementation challenges for 287 (g). Washington, D.C: Migration Policy Institute; 2010.
- 4. U.S. Immigration and Customs Enforcement. [Accessed July 25, 2011] Secure communities. 2011. http://www.ice.gov/secure\_communities/
- Ichikawa M, Nakahara S, Wakai S. Effect of post-migration detention on mental health among Afghan asylum seekers in Japan. Australian and New Zealand Journal of Psychiatry. Apr; 2006 40(4):341–346. [PubMed: 16620316]
- Keller AS, Rosenfeld B, Trinh-Shevrin C, et al. Mental health of detained asylum seekers. Lancet. Nov 22; 2003 362(9397):1721–1723. [PubMed: 14643122]
- Silove D, Steel Z, Mollica RF. Detention of asylum seekers assault on health, human rights, and social development. Lancet. 2001; 357(9266):1436–1437. [PubMed: 11356469]
- Castaneda H. Illegality as risk factor: A survey of unauthorized migrant patients in a Berlin clinic. Social Science & Medicine. 2009; 68(8):1552–1560. [PubMed: 19246143]
- Torres AM, Sanz B. Health care provision for illegal immigrants: should public health be concerned? Journal of Epidemiology & Community Health. Jun; 2000 54(6):478–479. [PubMed: 10818127]
- Magalhaes L, Carrasco C, Gastaldo D. Undocumented migrants in Canada: a scope literature review on health, access to services, and working conditions. Journal of Immigrant and Minority Health. Feb; 2010 12(1):132–151. [PubMed: 19657739]
- 11. Capps, R.; Castañeda, RM.; Chaudry, A.; Santos, R. Paying the Price: The impact of immigration Raids on America's Children. Washington, DC: National Council of La Raza; 2007.
- Massachusetts Immigrant and Refugee Advocacy Coalition. [Accessed January 10, 2010, 2010] New Bedford Immigration raids. 2010. http://www.miracoalition.org/home/new-bedfordimmigration-raids

- 13. Steinberg, N. Caught in the middle: Undocumented immigrants between federal enforcement and local integration. Boston, MA: The Urban Institute; 2008.
- Asch S, Leake B, Anderson R, Gelberg L. Why do symptomatic patients delay obtaining care for tuberculosis? American Journal of Respiratory and Critical Care Medicine. Apr 1; 1998 157(4 Pt 1):1244–1248. [PubMed: 9563746]
- Berk ML, Schur CL. The effect of fear on access to care among undocumented Latino immigrants. Journal of Immigrant Health. 2001; 3(3):151–156. [PubMed: 16228780]
- Asch S, Leake B, Gelberg L. Does fear of immigration authorities deter Tuberculosis patients from seeking care? Western Journal of Medicine. 1994; 161(4):373–376. [PubMed: 7817547]
- Fenton JJ, Catalano R, Hargreaves A. Effect Of Proposition 187 On Mental Health Service Use In California: A Case Study. Health Affairs. 1996; 15(1):182–190. [PubMed: 8920582]
- Cavazos-Rehg PA, Zayas LH, Spitznagel EL. Legal status, emotional well-being and subjective health status of Latino immigrants. Journal of the Natlonal Medical Association. Oct 1; 2007 99(10):1126–1131.
- Miller KE, Rasmussen A. War exposure, daily stressors, and mental health in conflict and postconflict settings: Bridging the divide between trauma-focused and psychosoical frameworks. Social Science & Medicine. 2010; 70(1):7–16. [PubMed: 19854552]
- 20. Centers for Disease Control and Prevention. [Accessed October 3,, 2010] Violence Prevention. 2010. http://www.cdc.gov/violenceprevention/
- Viruell-Fuentes EA. Beyond acculturation: immigration, discrimination, and health research among Mexicans in the United States. Social Science & Medicine. Oct; 2007 65(7):1524–1535. [PubMed: 17602812]
- 22. Karp RJ, Rhee D, Feldman D, Bouchkouj N. Outreach to immigrant communities: teaching pediatric residents about access to health care. Journal of Health Care for the Poor and Underserved. Aug; 2007 18(3):510–515. [PubMed: 17675709]
- Ku L, Matani S. Left out: Immigrants' access to health care and insurance. Health Affairs. Jan 5.2001 20(1):247. [PubMed: 11194848]
- 24. Goossens M, Depoorter AM. Contacts between general practitioners and migrants without a residence permit and the use of "urgent" medical care. Scandanavian Journal of Public Health. Jun 30.2011
- 25. Bertakis KD. The influence of gender on the doctor-patient interaction. Patient Education and Counseling. Sep; 2009 76(3):356–360. [PubMed: 19647968]
- 26. Bertakis KD, Helms LJ, Callahan EJ, Azari R, Robbins JA. The influence of gender on physician practice style. Medical Care. Apr; 1995 33(4):407–416. [PubMed: 7731281]
- Bischoff A, Hudelson P, Bovier PA. Doctor-patient gender concordance and patient satisfaction in interpreter-mediated consultations: an exploratory study. Journal of Travel Medicine. Jan-Feb; 2008 15(1):1–5. [PubMed: 18217862]
- Teutsch C. Patient-doctor communication. Medical Clinics of North America. Sep; 2003 87(5): 1115–1145. [PubMed: 14621334]
- Sheridan I. Treating the world without leaving your ED: opportunities to deliver culturally competent care. Academic Emergency Medicine. Aug; 2006 13(8):896–903. [PubMed: 16825668]
- Chaudry, A.; Fortuny, K.; Jargowsky, PA. Immigration trends in metropolitan America, 1980– 2007. Washington, D.C: Urban Institute; 2010.
- Hoefer, M.; Rytina, N.; Baker, BC. Estimates of the Unauthorized Immigrant Population Residing in the United States: January 2009. Washington, D.C: Office of Immigration Statistics, Dept of Homeland Security; Jan 31. 2011 2010
- 32. Egmont, W.; Millona, E.; Chacon, R.; Tambouret, N.; Hohn, M.; Borges-Mendez, R. Massachusetts New Americans Agenda. Boston, MA: 2009.
- 33. U.S. Census Bureau. [Accessed October 3, 2010] 2006–2008 American Community Survey 3-Year Estimates. Data Profiles. 2008. http://factfinder.census.gov/servlet/ADPTable?\_bm=y&context=adp&-ds\_name=ACS\_2008\_3YR\_G00\_&-tree\_id=3308&-redoLog=true&-\_caller=geoselect&-geo\_id=16000US2521990&-format=&-\_lang=en

- 34. Clayton-Mathews, A.; Karp, F.; Watanabe, P. Massachusetts Immigrants by the Numbers: Demographic Characteristics and Economic Footprint. Malden, MA: The Immigrant Learning Center, Inc; 2009.
- 35. Interviews: Everett, Somerville, Chelsea Police Chiefs. Everett, MA: 2009.
- 36. Hacker K, Chu J, Leung C, et al. The impact of Immigration and Customs Enforcement on immigrant health: Perceptions of immigrants in Everett, Massachusetts, USA. Social Science & Medicine. Jun 30.2011
- 37. U.S. Census Bureau. [Accessed 5/24/2011, 2011] American Fact Finder. http:// factfinder.census.gov/servlet/SAFFIteratedFacts? \_event=&geo\_id=16000US2521990&\_geoContext=&\_street=&\_county=&\_cityTown=&\_state=0 4000US25&\_zip=&\_lang=en&\_sse=on&ActiveGeoDiv=geoSelect&\_useEV=&pctxt=fph&pgsl= 160&\_submenuId=factsheet\_2&ds\_name=DEC\_2000\_SAFF&\_ci\_nbr=002&qr\_name=DEC\_200 0\_SAFF\_R1160&reg=DEC\_2000\_SAFF\_R1160% 3A002&\_keyword=&\_industry=
- Education. MDoSaE. [Accessed 7/28, 2011] Everett School District Profile, 2011. 2011. www.doe.mass.edu
- 39. SAS. SAS Insitute; Cary, NC: Feb 9. 2010
- 40. Baum FE, Begin M, Houweling TA, Taylor S. Changes not for the Fainthearted: Reorienting health care systems toward health equity through action on the social determinants of health. American Journal of Public Health. 2009; 99(11):1967–1974. [PubMed: 19762660]
- 41. Chokshi DA. Teaching about health disparities using a social determinants framework. Journal of General Internal Medicine. 2010; 25(Supplement 2):182–185.
- 42. De Maeseneer J. Determinants of health: The role of the general practitioner. PrimaryCare. 2009; 9(15):285.
- 43. Rasanathan K, Montesinos E, Matheson D, Etienne C, Evans T. Primary health care and the social determinants of health: Essential and complementary approaches for reducing inequities in health. Journal of Epidemiology and Community Health. 2010; 65(8):1–5. [PubMed: 20870657]
- 44. Chaudry, A.; Capps, R.; Pedroza, JM.; Castaneda, RM.; Santos, R.; Scott, MM. Facing our future: Children in the aftermath of immigration enforcement. Washington, DC: Urban Institute; 2010.
- 45. Kaiser Commission on Medicaid and the Uninsured. Fact Sheet: Immigrants' health care coverage and access. 2003. http://www.kff.org/uninsured/upload/Immigrants-Health-Care-Coverage-and-Access-fact-sheet.pdf
- 46. Aber JL, Bennett NG, Conley DC, Li J. The effects of poverty on child health and development. Annual Review of Public Health. 1997; 18:463–483.
- 47. Ahmed H. Effects of poverty on child health and paediatric practice in Nigeria: an overview. Annals of African Medicine. Dec; 2007 6(4):142–156. [PubMed: 18354938]

#### Table 1

#### Provider Characteristics and Responses to Primary Survey Questions

	N (%)
Total	156 (100.0)
Gender	
Male	71 (45.5)
Female	85 (54.5)
Site <sup>a</sup>	
Cambridge Health Alliance (CHA)	87 (55.8)
Massachusetts General Hospital (MGH)	68 (43.6)
Clinical Service Provided	
Primary care (PCP)	106 (67.9)
Emergency care (EMP)	50 (32.1)
Takes Care of Foreign Born Immigrants f	rom Everett
Yes	144 (92.3)
No	12 (7.7)
Takes Care of Undocumented Foreign Bo	rn Immigrants
Yes	100 (64.1)
No/don't know/prefer not to answer	56 (35.9)
Number of Regions from which Providers	See Patients
Median number of regions (range)	9 regions (0 to 10)
Provider Observed Negative Impact on He	ealth Status
Yes	62 (39.7)
No/Don't Know	94 (60.3)
Provider Observed Negative Impact On H	ealth Access
Yes	51 (32.7)
No/Don't Know	105 (67.3)

<sup>a</sup>One provider practiced at both sites and is not included, frequency will not add up to total

**NIH-PA Author Manuscript** 

# Table 2

Bivariate Associations between Provider Characteristics and Observation of Negative Impacts of ICE on Health and Health Access

Provider Characteristic	Heal	Health Status		Heal	Health Access	
	Yes N=62	No/don't know N=94		Yes N=51	No/don't know N=105	
Gender	N (%)	N (%)	P-value <sup>b</sup>	N (%)	(%) N	P-value <sup>b</sup>
Male	17 (27.4)	54 (57.5)	0000	14 (27.5)	57 (54.3)	0
Female	45 (72.6)	40 (42.6)	<0.001	37 (72.6)	48 (45.7)	<0.01
Site <sup>a</sup>						
Cambridge Health Alliance (CHA)	42 (67.7)	45 (48.4)		38 (74.5)	49 (47.1)	0
Massachusetts General Hospital (MGH)	20 (32.3)	48 (51.6)	<0.05	13 (25.5)	55 (52.9)	<0.01
Clinical Service Provided						
Primary care (PCP)	57 (91.9)	49 (52.1)	1000 0	44 (86.3)	62 (59.1)	100 0
Emergency care (EMP)	5 (8.1)	45 (47.9)	1000.0>	7 (13.7)	43 (41.0)	100.0>
Takes Care of Undocumented Foreign Born Immigrants						
Yes	49 (79.0)	51 (54.3)	600	45 (88.2)	55 (52.4)	1000 0
No/don't know/prefer not to answer	13 (21.0)	43 (45.7)	10.0>	6 (11.8)	50 (47.6)	1000.0>
Number of Regions from which Providers See Patients						
Median number of regions (range)	9 (4 to 10)	9 (0 to 10)	0.99	9 (4 to 10)	9 (0 to 10)	0.72
If Yes, Patient Population(s) Affected <sup>c</sup>	N (%)			N (%)		
Mental Health Patients	46 (74.2)			36 (70.6)		
Patients with Chronic Disease	45 (72.6)			40 (78.4)		
Children under 5 years old	29 (46.8)			18 (35.3)		
Teenagers	21 (33.9)			19 (37.3)		
Pregnant Women	23 (37.1)			12 (23.5)		
Other	4 (6.5)			3 (5.9)		
None of the Above	2 (3.2)			2 (3.9)		

J Health Care Poor Underserved. Author manuscript; available in PMC 2013 August 26.

 $b_{\rm P}$ -values derived from Chi-square tests for categorical variables and Wilcoxon rank-sum test for continuous variables

**NIH-PA** Author Manuscript

**NIH-PA** Author Manuscript

 $b_{\rm Only}$  providers that indicated they observed negative affects were asked to specify which of the given patient populations were affected; providers could select all that apply, frequencies will not equal sample size

Hacker et al.

## Table 3

Multivariate Associations between Provider Characteristics and Observation of Negative Impacts of ICE on Health and Health Access

	Provider Did (	Observe No	<b>Provider Did Observe Negative Impact of ICE on</b>	
	Health Status		Health Access	
Independent Variables in Model <sup>a</sup>	Odds Ratio (95% CI)	P-value	Odds Ratio (95% CI) P-value Odds Ratio (95% CI) P-value	P-value
Gender				
Female vs. Male	3.43(1.472–7.98)	<0.01	3.07 (1.29–7.32)	<0.05
Site of Practice:				
CHA vs. MGH	2.47 (1.06–5.72)	<0.05	3.94 (1.63–9.51)	<0.01
<b>Clinical Service Provided</b>				
PCP vs. EMP	12.0 (3.96–36.3)	<.0001	4.01 (1.45–11.1)	<0.01
Undocumented Foreign Born Immigrants				
Yes vs. No/don't know/prefer not to answer	3.55 (1.49–8.46)	<0.01	8.10 (2.91–22.5)	<0.0001
Regions from which Provider sees Patients				
Number, continuous (range 0-6)	1.44(1.10-1.89)	<0.01	1.23 (0.95–1.66)	0.12

 $^{a}$ Logistic regression models included 155 providers and all independent variables shown to estimate the likelihood of a positive response to outcome question, one provider practiced at both sites and was excluded