In this issue of *Streamline*, we consider two major barriers faced by our patients in accessing care: immigration concerns and literacy difficulties. Each topic is considered from the points of view of both patients and clinicians. Resources for overcoming these barriers are presented, some of which entail using medical volunteers. There are special constraints in the use of volunteers from both a legal and a quality perspective. Together with the Health Care for the Homeless clinical network, MCN surveyed some best practices on using volunteers in a medical setting. Check out the web sites listed in this issue, and don't forget to access more helpful materials from our own award-winning website: www.migrantclinician.org.

# Immigration Concerns Impact Federally Funded Health Centers

Ed Zuroweste, MD, Jennie McLaurin, MD, MPH, Amy K. Liebman, MPA and Tim Dunn PhD

mmigration issues are a hot topic, but paradoxically, are not often directly addressed by health centers. Health centers may find themselves confused about their roles and responsibilities when it comes to treating undocumented patients. Furthermore, patients themselves are often concerned that their immigration status may negatively impact their care, or may jeopardize a family member. Lack of clear communication by health center staff to the general patient population may result in unintended barriers to care secondary to fear and misinformation.

The migrant\* workforce today is characterized by a growing number of undocumented workers who travel from Mexico (56%) and Latin America (20%). The 11.5-12 million unauthorized migrants come from both traditional and new sending communities, and now reside in the US for longer periods of time before returning to their home countries. Some 3.1 million US citizen children are part of these migrant households, a fact which illustrates the complexity of responding to the issue of controlling immigration through deportation or work permit mechanisms (Passel, 2006).

Mexican President Felipe Calderon, meeting with President Bush in March of this year, said "Yes, I do have family in the United States." He then elaborated that they are packing vegetables and he doesn't know their legal status. Foreign-born workers comprise almost 15% of our nation's wage earners, disproportionately represented in high risk, low wage, and unskilled positions.

The fatality rate of foreign-born Hispanic workers is 44% higher than the national rate (Richardson, 2006). Although migrant farmworkers used to return home on a yearly basis and remain in farmwork for many years, today's new immigrants stay an average of three years before returning home and over half quickly transition out of farming into other job settings. Figure 1 shows the legal status of all immigrants to the U.S. in 2005.

The Illegal Immigration Reform and Immigrant Responsibility Act of 1996 placed a focus on enforcement and securing of our borders. Recently, Congress allocated 1.2 billion dollars to border enforcement through the Secure Fence Act of 2006. US immigration policies affect those already here by essentially "locking them in," and

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Figure 1. Legal Status of Immigrants, 2005

Source: Passell, 2006

Refugee Arrivals (2.6 million)
7%

Temporary Legal Residents
(1.3 million)
4%

Legal Permanent Resident
(LPR) Aliens (10.5 million)
28%

Unauthorized Migrants (11.1 million)
30%

Naturalized Ciszens (former LPRs) (11.5 million)
31%

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increasing the possibility that relatives attempting to reunite with family members may risk death as they cross north (GAO, 2006; T. Jiminez, UCSD, as quoted in NY Times). Migrant workers now stay longer in the US without accessible means of obtaining citizenship and with increasing fear of being deported.

Most immigrant workers are young and healthy. Furthermore, they are often unfamiliar with the concept of preventive services, and so they utilize health care only in emergency situations. The most expensive component of emergency Medicaid for undocumented immigrants is for childbirth. A North Carolina report cited 82% of emergency Medicaid expenditures in 2004 as related to pregnancy and childbirth. Children born in the US are US citizens, regardless of their parents' citizenship status. Despite the fact that these children are our citizens, and qualify for public services, only 5 states cover prenatal care to all women, regardless of immigration status. Contrary to popular opinion, immigrants underutilize services for which they qualify. Of those eligible for public assistance, fewer than 20% access assistance programs. The most commonly used benefits are school lunches and food stamps. The past ten years has seen a significant decline in the numbers of eligible children receiving food stamps and school lunches: many attribute this to the growing fear of immigrant parents in interfacing with government programs.

There are numerous reports of anti-immigrant legislation and activities impacting the health and safety of CHC patients. A few such cases are summarized here:

- Georgia, 2006– denies publicly-funded healthcare to undocumented immigrants and requires proof of legal status to receive care. As a result of this ruling a Migrant Health Center lost state funding.
- Arizona, Proposition 200 made it a requirement to show either a passport or birth certificate in order to obtain basic public services.

- Hazleton, PA—The Illegal Immigration Relief Act in Summer 2006 levied fines against landlords who rent to undocumented immigrants. This Act also denied business permits to companies that employ undocumented workers. Tenants were required to register at City Hall. Eventually, a Federal judge ruled against the City of Hazleton in the landmark challenge (Lozano v. City of Hazleton) to local ordinances aimed at punishing landlords, employers, and people perceived to be immigrants. This ruling supports the American Civil Liberties Union's claim that the federal government has exclusive power over immigration policy.
- Prince William County, VA is currently moving to enact some of the toughest measures in the nation targeting undocumented immigrants. If these measures pass, then police would be required to check documentation on ALL individuals "breaking any law". The measure would also compel county schools, libraries, medical clinics, swimming pools, summer camps to verify the immigration status of all participants.
- ICE raids have left US born children without parents as agricultural workers in NY and factory workers in WA were deported in 2006.
- In July, 2005 ICE posing as OSHA trainers arrest 48 undocumented construction workers lured to a bogus training workshop. After major protest by national healthcare organizations including MCN, APHA, and other health and safety entities, ICE promises not to interfere with integrity of health and safety work.
- Reports from Chicago and El Paso claim that ICE checkpoints continue near places where immigrants work and receive services, including health centers.
- Federal, state and local governments debate whether patients in emergency rooms, hospitals, and health centers can be asked immigration status as a method

for screening for financial assistance eligi-

These are only a few examples of how legislation and public debate directly affect the health status and access of immigrant workers. In light of these controversies, health centers must understand their legal and moral claims as they seek to serve all who are in need of care.

Shelley Davis, JD, from Farmworker Justice (sdavis@nclr.org) outlines the following rights and duties all health centers have regarding the immigration concerns of their patients:

- 1. Health centers have no affirmative obligation to report a patient's immigration status to Immigration and Customs Enforcement (ICE).
- 2. Health centers receive information from patients, including their immigration status, in confidence. Like other confidential information, they can only disclose it to ICE with the patient's consent or if ICE has a court order/warrant. For the most part, the health center should refuse requests for immigration information.
- 3. ICE is permitted to go in commercial spaces that are freely open to the public. It might help if the clinic posts a sign saying that its waiting area is only open to patients and those accompanying patients. This should be sufficient to deny access to immigration officials.
- 4. Patient treatment areas are clearly not open to the public so immigration officials can definitely be excluded from these spaces.
- 5. The parking lot is a public space. If this is an issue, the health center could make the case that it is in the interest of the public health of the nation that patients have access to clinics - and they won't use these services if immigration officials are

Health centers should incorporate staff training on these points into orientations and QI

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# **Low Literacy as a Health Indicator**

Migrant farmworkers and immigrant workers are known to have Limited English Proficiency (LEP) and furthermore, to have experienced limited formal education and to generally function at low levels of literacy, even in their native language. Multiple sources show that the average formal education of farmworkers is grade six for men and grade three for women. Low literacy is itself an indicator of poor health; compounded with LEP, the risk of adverse health outcomes is increased. This section considers both the health implications of low literacy and the resources available to respond to very low literacy non-English speaking populations. The relationship between low literacy and poor health is excerpted here from SABES, an adult basic education organization in the Northeast: (http://www.sabes.org/northeast/Health/low literacy-print.html).

# Low Literacy and Poor Health Are Directly Linked: The Research Base

- In the 1990s, Healthy People 2000 & Other Strategic Plans identify educational level as a key determinant for access to health education and promotion activities and health services.
- Simultaneously, studies in non-industrialized nations indicate a direct relationship between literacy level and key health indi-
- Studies in Canada by Perrin and in the U.S. by Davis, Weiss & Williams confirm the interaction between literacy level and health, linking low reading level with poor health.
- The linkage between low literacy and poor health is affirmed by Healthy People 2010, The American Medical Association (2000) and Institute for Medicine (2004).
- The National Adult Literacy Survey in 1992 established that 45% of the U.S. population (90 million people) have extremely limited (20%) or limited (25%) literacy skill concentrated in minority populations.
- Research has shown that health education and promotion is a key strategy in today's health care. However, most health education-promotion material is in print form written at or above the 10th grade level. Moreover, print materials frequently make assumptions about prior knowledge that lead to misunderstanding.

Therefore, the 90 million adults who are in the greatest need of health education and promotion do not benefit from current health education practice about prevention and early detection. (www.sabes.org)

Not only are health outcomes impaired by barriers of low literacy and very low literacy, but health care costs are also affected. A study by Drs. Weiss and Palmer found that among Medicaid populations, very low literacy adults (3rd grade or less level) had health care costs five times higher than low literacy adults (4th grade level). This is not a distinction we often make in general discussions about low literacy, but the reality of most of our patients is that they fall into the very low literacy category. Excerpted here is further information from The Journal of the American Board of Family Practice 17:44-47 (2004)]:



According to the National Adult Literacy Survey, about one quarter of American adults have extremely limited literacy skills. Research has shown that limited literacy is associated with poor health status,<sup>2,3</sup> higher hospitalization rates,3 limited knowledge about health information,<sup>4,5</sup> and under-use of preventive health services.6 One might hypothesize, therefore, that limited literacy is also associated with higher health care costs. However, Weiss et al<sup>7</sup> found no relationship between literacy and health care costs in a study of Medicaid enrollees in Arizona. Unfortunately, although that study involved over 400 patients, most were enrolled in Medicaid because of pregnancy (which made them eligible for Medicaid benefits). Such young, relatively healthy pregnant women do not have sufficient variation in health care costs to permit detection of a relationship between literacy and costs.

In this report, we reanalyzed data from the Arizona study after excluding subjects enrolled because of pregnancy. The hypothesis tested was that among the remaining subjects from the study who were enrolled in Medicaid because of medical need or medical indigence (MNMI), those with very low literacy skills would have higher health care charges than did subjects with higher literacy skills.

The key finding of this study is that persons with low-literacy skills generate higher charges for health care than do persons with better reading skills. The difference was large, statistically significant, and clinically meaningful. It supports results of other research, which has

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#### **Very Low Literacy Resources**

A number of resources are available to help health centers provide quality care to very low literacy adults. A sampling of those researched by MCN are listed below.

Ask Me 3 is a quick, effective tool designed to improve health communication between you and your patients. The goal of Ask Me 3 is to help patients better understand their medical condition and be able to follow your instructions. Patients who understand and can act on health information are more likely to follow their health care provider's instructions, which may lead to better health outcomes. Better understanding may also reduce the number of call-backs to your office as well as missed appointments. Importantly, research has shown that implementing Ask Me 3 does not increase the time patients spend in the health care provider's office.

The Ask Me 3 program includes brochures, posters, and a web site about health literacy, customized for patients, providers, and organizations. The materials are available in Spanish, for a limited time. You can request them free of charge through the non-profit Partnership for Clear Health Communication at www.askme3.org. The Web site provides comprehensive information about health literacy, as well as the Ask Me 3 program. You can also encourage your patients to visit the Web site to learn more about the importance of clear health communication.

http://www.booksofhope.com/: This is a special project developed in Africa with wide applicability to our populations. They are short "speaking books" that are narrated and illustrated as a way of spreading health education.

http://www.medscape.com/viewarticle/ 432047 side2: This is a resource list that will assist you in creating low literacy health education materials.

http://apha.confex.com/apha/134am/techprogram/ paper\_140060.htm: This APHA session from Nov. 2006 showed the effectiveness of using hands-on education to train low literacy Spanish language workers in pesticide application. This has direct impact on what is described in our environmental news section!

Vida Entera y Sana is a 3 year demonstration project funded by the Office of Minority Health to address obesity in the Oregon Hispanic Community. You can get more information on it from Helen Bellanca hbellanca@lcdcfh.org; Lorena Sprager Isprager@lcdcfh.org; Maria Antonia Sanchez 541-39901440. MCN's website has an article with resources developed by this group.

Discount School Supply is a great place to start to get resources on nutrition using laminated pictures of food items, plastic food, and music. www.discountschoolsupply.com

For more information on very low literacy, visit the MCN website www.migrantclinician.org

# ■ Low Literacy and Poor Health continued from page 3

found that persons with limited literacy skills have poorer health status, are more apt to be hospitalized, and make more visits to emergency rooms than their more literate counterparts. 15-17 Indeed, one analysis has suggested that excess hospitalizations and other ramifications of limited literacy cost the US health care system between \$50 to 73 billion per year. 18

The key finding of the study is supported by the multivariable analysis, in which literacy was a predictor of health care costs independent of the other sociodemographic variables that we measured. Furthermore, all subjects in this study were Medicaid enrollees and, as such, they were mostly unemployed or employed at low-paying jobs, indicating that they all had similar socioeconomic status.

Nonetheless, for several reasons, the results of this study are preliminary. First, they are based on secondary analyses of a larger data set from a previous study. Second, the findings are based on data from a small numbers of subjects, raising the possibility that the higher costs found in the low-literacy group could have been attributable to the chance occurrence of high-cost illness in a few subjects. Third, there may have been other factors, not measured in this study, that contributed to health costs. Thus, additional investigation is needed to confirm the

results of this study, and to further explore the basis of the relationship between literacy and health care costs.

The mobile poor, served by MCN's constituents, are characterized by both LEP and low to very low literacy levels. By excluding pregnant women from this study on the relationship between low literacy and the costs of care, the researchers found that low literacy adults not only had poorer health than their literate counterparts, but that they also encountered more costly avenues of medicine as they utilized health care. Low literacy has implications beyond just making sure that our patients understand health education literature. The ramifications include a high impact on disparities in care, cost, and health outcomes. System-wide solutions need to be sought as we address the more than 25% of adults with low literacy; a disproportionate number who are seen in our centers. From hospitals to pharmacies to clinic sites, our care must be shaped to minimize the risks associated with low literacy. Simultaneously, we must encourage and collaborate to improve literacy levels in the adult population. Feedback from readers on your local solutions to this problem is welcome!

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# **Volunteers in the Health Center Setting**

any centers use clinical volunteers to expand or enhance their service capacity without additional outlays for personnel. Projects utilize other types of volunteers in a variety of areas for administrative purposes, fund-raising, data entry, and other non-clinical activities. Promotoras or lay health workers often support communitybased grant programs. Promotoras provide culturally appropriate health education in a variety of both traditional and non-traditional settings. Patients report that they feel inclined to follow the advice of the promotoras because they feel the health workers "understand our needs because they come from our community." Volunteers permit health centers to better offer extended clinic hours and special services. Reliable volunteers can increase and improve service access, enabling clinics to serve more patients than would be possible with paid staff alone. Often volunteers return to work with special populations after completing their formal education, citing their volunteer experience as a motivational factor.

Despite the advantages of using clinical volunteers, clinics report they face many challenges that complicate the use of volunteers. A primary example is the expense and availability of liability insurance coverage for volunteer clinicians. Because current law excludes healthcare professionals who volunteer their services at health centers from FTCA coverage, health centers report the need for creative thinking to address this issue. Some centers make the volunteer an employee, giving them a modest stipend so that the Federal Tort Claims Act (FTCA) of 1996 coverage applies. In these cases, volunteers go through the same orientation as other staff for the services they will provide. These include such trainings as HIPAA and OSHA standards of practice. Licensed volunteers include, but are not limited to, nurses, physicians, nurse practitioners, physician assistants, dentists and licensed social work-

Federal policy changes regarding liability and malpractice coverage for volunteer healthcare professionals have focused attention on the use of clinical volunteers by the healthcare safety net. These include:

The Volunteer Protection Act of 1997 (VPA) provides limited immunity to volunteers from tort claims in 501(c)(3) and 501(c)(4) nonprofit organizations. This law protects a volunteer from being charged with carelessly injuring another in the course of helping a nonprofit organization. Volunteers are protected against negligent acts, but not gross negligence (which involves a greater degree of carelessness). The VPA does not provide volunteer immunity from charges of willful or criminal misconduct, reckless misconduct, or conscious, flagrant indifference to the rights or safety of the harmed individual. Although it provides a minimal level of protection for volunteers, preempting State laws that provide a lesser level of immunity, the VPA does not preempt State laws that specifically address the liability of nonprofit organizations.

For example, State laws can require a nonprofit organization or governmental entity to use risk management or mandatory training procedures. A State may also make an organization liable for the acts or omissions of its volunteers to the same extent as an employer is liable for the acts or omissions of its employees. In addition, a State law may require the nonprofit organization to provide a financially secure source of recovery for individuals who suffer harm as a result of actions taken by a volunteer, as a condition for liability coverage under the VPA.

Thus, although the law provides some liability protection for volunteer clinicians acting within the scope of their duties in a nonprofit organization, it does not preclude the need for malpractice insurance coverage. (Additional information about the provisions and limitations of the Volunteer Protection Act of 1997 (Public Law 105-19) is available at: http://www.access.gpo.gov/nara/publaw/105publ.html)

• The Federal Tort Claims Act (FTCA) of 1996: Federal employees receive medical malpractice coverage from the Federal Tort Claims Act. The FTCA holds the United States legally responsible for the acts of its employees, as long as they are acting within the scope of their job (Center for Risk Management/BPHC, April 2005). In 1992 FTCA coverage was given to full-or part-time employees in federally qualified health centers and their officers, directors, and certain contractors (BPHC PIN 99-08). In 1996 Congress extended FTCA medical malpractice protection to include free clinics and healthcare professionals who volunteer their services in such clinics, under Section 194 of the Health Insurance Portability and Accountability Act (Public Law 104–191). Appropriations to fund the Free Clinics FTCA Medical Malpractice

Program were not passed until January 2004, however, so the Program was not implemented until 2004.

The Bureau of Primary Health Care's September 24, 2004 Program Information Notice (PIN 2004-24) provides detailed information on the implementation of the Free Clinics FTCA Medical Malpractice Program (http://bphc.hrsa.gov/freeclinicsftca/ application.htm#2). According to the PIN, if a volunteer healthcare professional meets all requirements of the Program, the related free clinic can sponsor him or her to be a "deemed" federal employee for the purpose of FTCA medical malpractice coverage. FTCA deemed status provides volunteer healthcare professionals with immunity from medical malpractice lawsuits resulting from subsequent clinical functions performed within the scope of their work at the free clinic. Malpractice protections under the FTCA cover ordinary negligence, gross negligence and punitive damages, whereas the Volunteer Protection Act only covers ordinary negligence.

Volunteers hope to invest themselves in this work for both idealistic as well as practical purposes. Find out what their reasons include and support their ability to address their desires. This will insure that both the volunteer and the health center share in the successful venture. At the end of the volunteer's time with your center, they may be motivated to continue their work with the special populations.

To address challenges and to ensure that volunteers gain a valuable experience, heath centers employ some of the following strategies:

#### Assure Liability Coverage

- Make the volunteer an employee with a small stipend so that they qualify for
- If the health center is affiliated with a university, it may cover liability insurance for volunteers.
- If the health center is affiliated with a medical center that provides liability insurance, volunteers can become employees of the medical center.
- Health centers can carry their own liability insurance to cover volunteers who work regularly.

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<sup>1.</sup> A free clinic is defined as "a licensed or certified health care facility operated by a nonprofit private entity that provides health services, but does not accept reimbursement from any third-party payor (including insurance, health plans or Federal or State health benefits programs), and does not charge patients for services" (Bureau of Primary Health Care, PIN 2004–24, September 24, 2004).

# ■ Volunteers in the Health Center Setting continued from page 5

#### **Promote Continuity of Care**

- · Volunteers, whether local providers or health professions students, can impact continuity of care. Some centers ask providers to make a commitment to return on a set schedule. Others work with training institutions to set rotations for volunteers and to alternate volunteer coverage with primary provider coverage.
- For some projects, continuity of care is not a significant issue when the number of clients returning for follow-up is small.

#### **Encourage Reliability**

- Good rapport between staff and volunteer clinicians fosters long-term, reliable service.
- Regular volunteers (e.g., specialists) are required to give advance notice if they have to cancel.
- Documentation of volunteers' activities is required as part of outcomes monitoring.

#### Facilitate Screening

- Same screening process is used for staff and volunteers, per JCAHO accreditation requirements.
- Volunteers must provide the proper credentials as required by law.
- Volunteers must go through a hiring process that includes an application, resume, interview and reference checks for placement.
- Make sure Criminal Record Checks are completed on all volunteer applicants.

#### **Support Recruitment**

- Volunteer Coordinators are utilized to spearhead recruitment.
- Health centers recruit volunteers at intern-
- Volunteers are recruited through personal contact (by staff).

## Promote Adherence to Clinic Policies & Procedures

- Volunteers complete the same orientation as paid staff.
- Volunteers "learn by doing," through working with staff clinicians.

# **Encourage Retention**

- Volunteer appreciation events (e.g., picnic) are held to encourage retention.
- Volunteers are often provided housing, transportation, and food expenses.

# Increase Cultural Competency/ Sensitivity to Patients

- · Volunteers are screened for sensitivity to special population patients.2
- 2. See screening instrument developed by Baylor College of Medicine faculty: http://www.biomedcentral.com/1472-6920/5/2

- Language competency (e.g., in Spanish) is an important criterion for volunteers in some projects.
- Volunteers can take modules developed by MCN as part of their orientation.

#### **Ensure Appropriate Supervision**

- Volunteers work along with staff one staff member per volunteer at any given time.
- Volunteers are supervised by staff in the same professional discipline (physicians, physician assistants, nurses, etc.).
- AmeriCorps/VISTA workers oversee volunteer counselors in transitional living/career skill development programs.
- Frequent follow-up with volunteers is essential for the volunteer, health center, and patients.

The following resources assist health centers interested in beginning or improving clinical volunteer programs:

American Medical Student Association (AMSA). Health Care for the Homeless: http://www.amsa.org/ programs/gpit/homeless.cfm

Bureau of Primary Health Care (BPHC)/HRSA. Federal Tort Claims Act Coverage of Free Clinic Volunteer Health Care Professionals. PIN 2004-24, Sept. 24, 2004: http://bphc.hrsa.gov/freeclinicsftca/application.htm#2; Health Centers and The Federal Tort Claims Act. PIN 1999–08, April 12, 1999: ftp://ftp.hrsa.gov/bphc/docs/ 1999pins/pin99-08.txt

BPHC/HRSA. Volunteers Play Valuable Role in HCH Programs; Opening Doors 9(7), Summer 2002, p. 4: http://bphc.hrsa.gov/hchirc/pdfs/newsletter/Summer 02.pdf Center for Risk Management /BPHC/HRSA. Federal Tort Claims Act and Health Centers. Presentation, April 2005: http://bphc.hrsa.gov/quality/ftcashownew.ppt

Volunteers in Health Care (VIH) website: http://www.volunteersinhealthcare.org/home.htm

VIH has conducted extensive research on volunteer activities in safety net clinical settings, focusing primarily on free clinics. See especially: Recruiting and Retaining Medical Volunteers: http://www.volunteersinhealthcare.org/ Manuals/MD.Recruit.manual.pdf

Sample Policy and Procedure Manuals: http://www.volunteersinhealthcare.org/Manuals/ Policy.Procedure.manual.pdf

Volunteers in Medicine Institute: promotes creation of free health clinics that utilize retired health care professionals:

http://www.google.com/url?sa=U&start=1&q=http://w ww.vimi.org/&e=10313

http://www.esperanca.org/phoenix.html Example of a local not-for-profit community health center collaborating with a bigger, international medical volunteer site in order to recruit local help.

http://www.imva.org/Pages/orgdb/wblstfrm.htm Good advice on the how/what/why of volunteering. Has lots of information on medical volunteering.

http://www.medicalreservecorps.gov/HomePage Sponsored by US Surgeon General's office, this site can help get interim medical care to your area, paid for by federal dollars.

http://www.volunteermatch.org/ Website that matches organizations and volunteers from any place in US. Dedicated to not-for-profits, it is a free service open to CHCs and other not-for-profits. Just register and put in the kind of help you need, and then potential volunteers can find you! Definitely worth checking out.

#### **■ Immigration Concerns Impact** continued from page 2

plans. Additionally, health center staff should know that undocumented persons are eligible for the following services: WIC, Head Start, Migrant and Community Health Centers, Emergency Medicaid, free or reduced school meals, and free public basic education. Additionally, in a reversal of a previous policy, Medicaid now covers births to undocumented women and automatically extends coverage to their infants for the first year of life.

These immigration issues are not just for those concerned about federal funding within the United States. Barriers to immigrant health and worker safety violate the UN Universal Declaration of Human Rights. Specifically:

Article 25— Right to adequate standard of living, including medical care

Article 3- Right to life, liberty and security Article 2 — All are entitled to rights without distinction of any kind, including language and national and social origin

Article 1 — All human beings are born free and equal in dignity and rights

The position of U.S. health care providers has consistently been that they will provide competent, equitable, and compassionate care without regard to immigration status. Citizenship and nationality should not be a determinant for one's human rights. While most sites do screen for ability to pay for services, and private sites often refuse publicly insured clients, there is overwhelming sentiment that immigration status should be uncoupled from other eligibility criteria. Furthermore, provider organizations such as MCN, AAP, APHA, and AAFP have expressed a willingness to endorse civil disobedience if expected to comply with measures that would reduce access to care for immigrant patients.

MCN is a force for justice in health care to America's mobile poor. As such, we welcome the chance to partner with you to remove barriers to health care experienced by your patients. For more information on this topic, visit our award winning website www.migrantclinician.org and contact our Chief Medical Officer, Dr. Ed Zuroweste, at kugelzur@migrantclinician.org.

#### **Notes:**

\* In this article the term "migrant" refers to all laborers who experience mobility and poverty. This issue's spotlight on environmental health features the recent article in Diabetes Care that links agricultural pesticide exposure to a higher risk of gestational diabetes. The study participants were agricultural pesticide applicators and their spouses. In theory, we might assume that they are among the most informed sub-group of those exposed to agricultural chemicals. Yet, a significant number of women in the study mixed or applied pesticides in their first trimester of pregnancy. The question remains how many farmworker women, who are not themselves in charge of pesticide application, have significant exposure during their lifetime. Farmworker women, as made clear in other sections of this Streamline issue, may have added risk of occupational exposure due to burdens of immigration, language and literacy. The article is reprinted here from the Environmental Health Sciences website.

# Pesticide exposure and self-reported gestational diabetes mellitus in the Agricultural Health Study

Saldana TM, O Basso, JA Hoppin, DD Baird, C Knott, A Blair, MC Alavanja and DP Sandler. 2007. Diabetes Care. 30(3):529-34.

**ontext:** Gestational diabetes mellitus (GDM) affects approximately 4% of all pregnancies in the United States causing significant health problems during pregnancy and an increase of Type 2 diabetes (a chronic health condition) in the future. About 135,000 cases occur in the United States each year (American Diabetic Association).

GDM develops during pregnancy when cells do not normally respond to or use insulin. Insulin is the hormone responsible for turning sugars, called glucose, and starches into energy. The result is women with gestational diabetes have too much sugar circulating in their blood. The condition develops during pregnancy and goes away after the baby's birth. However, having gestational diabetes increases a woman's risk of developing the more chronic Type II form later in life.

Doctors routinely test women for GDM during mid-pregnancy. At highest risk are those who are older than 30; are overweight; have had a large or stillborn baby in the past; have had GDM in a prior pregnancy; and are African-American, Native American, Asian, Hispanic or of Pacific Island ancestry.

Uncontrolled high blood sugar can result in complications during pregnancy and at birth. The problems can affect the baby's health and may increase obesity and diabetes during childhood. Gestational diabetes, like Type II diabetes, is controlled largely through diet and

Women who reported mixing and applying agricultural pesticides during early pregnancy have a two times higher risk of developing gestational diabetes during the pregnancy. The strong association between first trimester pesticide exposure and gestational diabetes mellitus suggests that pesticide exposures may affect glucose metabolism and insulin resist-

What did they do? Saldana et al. analyzed data collected by the Agricultural Health Study to assess the relationship between pesticide exposure during early pregnancy and diagnosis of gestational diabetes mellitus (GDM). The AHS is a large study of pesticide applicators and their spouses in Iowa and North Carolina that has tracked participants since the 1990s.

Of the thousands enrolled in the AHS, more

than 11,200 women between the ages of 16 and 49 met this study's criteria regarding pregnancies that occurred within the past 25 years. The mothers self reported pesticide use in their first trimester of pregnancy and if they were diagnosed with gestational diabetes during their most recent pregnancy.

The participants were classified according to four pesticide use categories: no exposure, indirect exposure, residential exposure (applying to house or garden) and agricultural exposure (mixing and applying pesticides to crops or repairing pesticide application farm machinery). The authors calculated the odds of reporting GDM in relation to pesticide use.

What did they find? More than half of the women - whether experiencing GDM or not reported mixing and applying agricultural pesticides at some time in their life. Of the participants, 506 (4.5%) reported having GDM during their most recent pregnancy. Those reporting GDM were more likely to be older than 30, overweight and from North Carolina. Women who reported agricultural pesticide exposure (mixing or applying pesticides to crops or repairing pesticide application equipment) during pregnancy were more than twice as likely to report GDM (odds ratio [OR] 2.2 [95% CI 1.5–3.3]) as compared to women reporting no pesticide use in pregnancy. Specifically, four herbicides (2,4,5-T; 2,4,5-TP; atrazine; or butylate) and three insecticides (diazinon, phorate, or carbofuran) were associated with reporting GDM.

No increased risk was seen in women with indirect and residential exposure during the first trimester of pregnancy. The same held for those mixing or applying anytime in the past compared to those with no prior exposure.

What does it mean? Women who report mixing or applying agricultural pesticides during the first trimester of pregnancy are at a potentially higher risk for developing gestational diabetes than women who did not report handling agricultural pesticides in the first trimester of pregnancy.

Several epidemiologic studies have indicated an association between dioxin-like compounds and glucose metabolism (Remillard and Bunce 2002). Two recent studies show large increases in risk of Type II diabetes and

insulin resistance in response to exposure to persistent organic pollutants at background levels. This is the first study to examine the relationship between pesticide use and GDM in pregnancy. Common risk factors for GDM are known, but it is unclear if and how environmental exposures affect risk of developing the condition.

A major weakness of this study is the self reporting of all data as opposed to actual measurements of pesticides in the women's blood/urine. Diagnosis of GDM was also selfreported as opposed to medical records. Regardless, there is no reason to believe that there would be any inherent biases in reporting because women did not know how guestionnaire data would be used.

GDM can cause significant health problems during the pregnancy period, at birth and in the future because of an increased risk for developing Type 2 diabetes, which is a long term, chronic health condition. Pesticides may affect glucose metabolism leading to GDM in pregnancy, but further research is needed to confirm the findings presented here and determine the actual mechanism by which pesticides could cause these conditions.

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# calendar

# **Disasters: Recipes** and Remedies

November 1-2, 2007 New York, NY The New School for Social Research http://socres.org/disasters/contact.htm 212-229-5776 x3123

# **American Public Health Association Annual Meeting**

November 3-7, 2008 Washington, DC American Public Health Association www.apha.org 202-777-APHA

### **Rural Health Policy Institute**

January 28-30, 2008 Washington, DC National Rural Health Association www.nrharural.org 816-756-3140

### **Policy and Issues Forum**

March 12-17, 2008 Washington, DC National Association of Community Health Centers www.nachc.com 301-347-0400

# **Midwest Migrant Stream Forum**

December 6-8, 2007 Omni San Antonio Hotel San Antonio, TX 78230 http://www.ncfh.org/ (512) 312-2700

# **Western Migrant Stream Forum**

January 25 - 27, 2008 Spokane, WA 99201 http://www.nwrpca.org/ (206) 783-3004



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