

streamline

Mobile Care Successes and Struggles in Pennsylvania: Profile of Mary Englerth, PA

Jillian Hopewell MPA, MA, Director of Education and Professional Development, Migrant Clinicians Network
Claire Hutkins Seda, Staff Writer and Editor, Migrant Clinicians Network

Editor's Note: This year, Migrant Clinicians Network is celebrating 30 years of working to create practical solutions at the intersection of poverty, migration and health. To commemorate our 30th anniversary, we have launched 30 Clinicians Making a Difference, in which we chronicle the work of 30 individuals who have dedicated their lives to migrant health, of which the three profiles in this issue are a part.

Mary Englerth, PA, the Pennsylvania State Director of the Migrant Health Program at Keystone Health, can find herself reflecting on her patients during her off-hours. "Anytime I'm in the Giant and I pick up a piece of fruit, I think, 'Who picked this?'" she admitted. Englerth has spent much of the last 30 years working with migratory and seasonal agricultural workers in Pennsylvania at Keystone Health, coupled with years of

health work in the highlands of Peru and Guatemala as a physician assistant and Maryknoll Sister, a Catholic religious order of women devoting their lives to service overseas.

From Peru to Pennsylvania

Englerth first entered the field of migrant health after returning from Maryknoll service

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Photo courtesy of HRHCare

Care in the Black Dirt Region: Profile of Kathy Brieger

Jillian Hopewell MPA, MA, Director of Education and Professional Development, Migrant Clinicians Network
Claire Hutkins Seda, Staff Writer and Editor, Migrant Clinicians Network

Just an hour's drive from the bustle of New York City is the Black Dirt region of the Hudson Valley, an area named after its rich, volcanic soil, and a region equally as rich in its agricultural history. For Kathy Brieger, RD, CDE, MA, the administrator of the Alamo Farmworker Community Center -- one of the many hats she wears at Hudson River Healthcare (HRHCare) -- the region's agricultural workers have become more than just her patients. "Working with the farmworkers in this area [has been] one of the biggest gifts in my life," Brieger said. "[They've] been woven into my life, the people of this black dirt."

Adventures in mobile care

Brieger first learned about agricultural worker communities and their unique struggles when at age 17 she became a UFW organizer. By college, Brieger found herself drawn to nutrition studies. "It was something I wanted to spend my life in, especially in areas of public health, and [in] trying to help people

who had food security [issues]," Brieger recalled. She was just starting as a dietician at a health clinic in the region more than 30 years ago, when a pregnant agricultural worker with gestational diabetes was unable to make the trip to the health center where Brieger worked. "I asked my CEO at the time if it was possible to go out and visit her. Here I was, a dietician, and I just went out and [made] a home visit, and that's what started the whole thing."

Within a few years, "a lot of the work was really done out of our cars," explained Brieger. As the local health center expanded, so did services to its patients, many of whom were migratory and seasonal agricultural workers. Her health center eventually became one of the 20 locations of HRHCare, which serves the 10 counties of the Hudson Valley and Long Island.

HRHCare offers extensive services beyond primary care, including mental health care, nutrition services, transportation, and benefits counseling. Brieger notes that the many

resources the health center provides, like a pottery class and an art therapist, a homework help group, and hot meals in the wintertime, are often volunteer-run and paid for by donations, but always driven by the needs of the patients. "We really try to have the farmworkers tell us what they're interested in," Brieger noted. She is inspired by the high level of community involvement she witnesses; a recent homework help group brought out one retired principal, ten retired teachers, and two teenage boys as volunteers.

The health center continues to find ways to improve the lives of agricultural workers. One recent program brought together farmers and agricultural workers for a five-year training program on eye safety, sponsored by the Centers for Disease Control and Prevention (CDC) and the New York Agricultural Center for Agricultural Medicine and Health. Brieger found the program to

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in Peru for several months in the mid-80s, when her mother fell ill and needed her assistance. While back in the states, she found out about services provided to migratory and seasonal agricultural workers by Dr. Ed Zuroweste – now MCN’s Chief Medical Officer – as part of his private practice in New York.

“I remembered going into that office and I said, ‘I’m a bilingual PA – can you use me?’” laughed Englerth. “That’s when I really became aware of the migrant’s problems and chronic disease.” She returned to Peru, but was brought back again for family reasons and joined Dr. Zuroweste at his new work at Keystone Health in the early 90s. In 1995, Keystone Health received a federal grant to start a migrant health program in 15 counties of rural Pennsylvania. Englerth assisted in setting up the requirements for the migrant program, before she again returned to missionary service. She provided primary care services in Guatemala from 2003 to 2007. When she returned to the states, she found that her old job was waiting for her.

“I actually stepped back into the same job as when I left and we really went full force,” said Englerth. The program has expanded to 30 counties. “Next year we’ll hopefully be expanding into a new county, so it’ll be 31,” out of a total of 67 in Pennsylvania, Englerth said. The program is notable for its focus on outreach. “We have five sites throughout the state,” explained Englerth, noting each site covers between five and 10 counties. Each site has a site coordinator and a group of nurses who go out to the camps for migratory and seasonal agricultural workers, three nights a week. Englerth noted that much work is completed in the field, like health assessments, immunizations, and screenings. For those who need further assistance – “which of course, there are many” – each clinic runs slightly different. At her clinic in Adams County, they have an evening clinic every Tuesday. In more remote areas away from one of their clinics, they have Memorandums of Agreement with different hospitals, clinics, and health centers to care for patients.

Continued struggles

“We provide transportation for those who do not have it,” Englerth explained, but transportation continues to be a struggle due to the large coverage area and the lack of funding to cover growing transportation costs. “Right now, we have four men that... desperately need to get to one of our internal medicine doctors over in Chambersburg, and they just don’t have a way,” to get there, offered Englerth as a common example. The group is instead doing outreach to



local churches and others who may be willing to volunteer to provide transportation to the patients. The van for the clinic in her county, she said, is only able to cover one-third of the county per clinic night, leaving two-thirds of the county for a future clinic night. “If it’s really serious, one of the nurses will volunteer to go out and [bring] them in, or at times I have gone too... but transportation is a big problem,” Englerth said.

Collaboration plays a role

Englerth’s greatest challenge continues to be migrant patient follow-up, which she hopes MCN’s Health Network will help solve, as her clinics begin to register all migrant patients with ongoing health conditions in the network. A common scenario with mobile patients of any sort is the patient’s impediments to continued care once he or she has moved on to a new location. “You get the blood pressure [and] the glucose, never under control, but at least better, and then they go back and do not follow up, and they come back the next year and it’s worse than what it was the previous year,” Englerth explained. “That’s really the main challenge, is the follow-up.” In addition to relying on MCN’s ability to encourage and support follow-up, Englerth hopes that further peer-to-peer connection will enable better care. She envisions a world where “clinicians could get together to get a formulary to use the same medicines up and down the coast... a generalized formulary,” to provide continuity of care for migrant patients.

Despite the struggles, Englerth is positive about future changes. She works with second-year PA students from local universities, who join the clinical rotation for several weeks during the summer, and experience firsthand the uniqueness of migrant health. “It shows them the real disparities of health care in the US,” Englerth believes. “The reason I do [the PA student program] – because it’s a lot of work – is because hopefully they will see and not forget... our poor in our country.”

She also enjoys the strong collaboration Keystone has with Migrant Education in Pennsylvania. Her team joins Migrant Ed when they visit out-of-school youth in migratory agricultural worker camps, and conducts health screenings, which has helped Keystone expand into new camps and new counties. They also do outreach for new patients through Migrant Ed’s winter English as a Second Language (ESL) programs. Englerth notes that the winter collaboration has allowed Keystone to provide health screenings for migratory and seasonal workers who previously had no contact with Keystone, such as women working in the local packing houses.

Despite her administrative responsibilities, Englerth still manages to get out to the camps. She finds the personal connection rewarding. “[To] have someone to go out into the communities, and sit, and listen compassionately to their problems,” makes a big difference, Englerth believes. “The gratitude in people’s eyes for the little bit we can do... it’s reciprocal, it really is.” ■

Organizational Readiness: Evaluating the Implementation of *Hombres Unidos*

Swetha Nulu, MPH Candidate, Tulane University of Public Health and Tropical Medicine, Department of Global Health Systems and Development
Adrian Valasquez, Family Violence Coordinator, Migrant Clinicians Network

In 2007, participants in the brand-new program *Hombres Unidos Contra la Violencia Familiar* (HU) gathered to learn together about sexual/intimate partner violence (S/IPV). Over the course of five sessions led by male community health workers or *promotores* – trained members of the Latino migrant community – participants engaged in role-play, conversation, and guided discussion about S/IPV. Migrant Clinicians Network (MCN) launched the program in an effort to prevent S/IPV by creating an opportunity for male Latino migrants to reflect on behavior and beliefs related to gender roles, definitions of violence, and strategies to address violence. Here is one participant's wife, and her thoughts on the effect of the training on the family dynamics in her home, as collected in the post-program evaluation:

[Before *Hombres Unidos*,] my husband would come back home from work with the attitude that he had done the day's work and he was not willing to help me with the kids or with any of the housework. So I was left to do everything and it created problems between us. But, after he completed the *Hombres Unidos* workshop that I recommended to him, he had a complete change of heart. After he had completed the workshop, he got a new job and when he would get back from the job he would come home, wash dishes, help with other things around the house, and he started helping the children with their homework, along with many other things. It was a very positive change which made me and my whole family, including my husband, much happier.

MCN implemented the program with health organizations that displayed sufficient organizational readiness. To date, seven migrant health outreach organizations across the United States have brought HU to more than 500 participants. The organizations have piloted HU with slightly varying results due to their organizational capabilities. The question emerged: Was MCN's organizational readiness process sufficient in identifying which health centers would be successful in implementing HU? In 2014, MCN set out to retrospectively evaluate the process by which the health centers that piloted the program were selected. This research aimed to address the gap between research and practice by identifying characteristics of organizational readiness, which is the capacity of an organization to execute the program with fidelity to the original design.

About *Hombres Unidos*

By targeting the general population of male Latino migrant men instead of the more traditional approach of working with women, this program seeks to prevent S/IPV in these communities, rather than assisting victims of trauma or addressing the issue with men after violence has occurred, post-adjudicated. MCN identified all the best practices for a culturally competent program design that is heavily based on group discussions and role play activities led by male *promotores*. MCN provides HU curriculum and training for the five-session, male-led, peer-to-peer workshop. Migrant health outreach organizations may apply to adopt the program and integrate it into their outreach services.

Pilot program evaluation

When MCN first developed the HU curriculum, it created a national advisory committee of experts with significant experience in S/IPV, curriculum development, and outreach to men in the Latino migrant community. Working with the advisory committee, MCN extrapolated the most important characteristics for an organization using HU to have:

- 1) the interest of the organization in continuing to participate;
- 2) the organizational capacity, including the number of bilingual male *promotores* available to do the work, as well as the level of experience of these *promotores* and the larger organization in working on similar projects;
- 3) the need for a S/IPV prevention program in the organization's service area; and,
- 4) the responsiveness and participation of the organization during the evaluation phase of the project.

Three of the organizations represented on the advisory committee – all of which met the basic partner checklist criteria and expressed interest in piloting the program – implemented HU, with high degrees of success. Additionally, HU has been implemented in organizations that didn't fulfill all partner checklist criteria. While MCN has not completed all of the evaluation, some partners' lack of success in implementing the program may be due to their absence in meeting some of the core criteria indicated in the partner checklist that gauges an organization's readiness to adopt the program.

Evaluation of the evaluation

This year, with the extensive help of Swetha

Nulu, a MPH Candidate at Tulane University School of Public Health and Tropical Medicine, MCN reevaluated its partner checklist to assess its efficacy in assuring successful program implementation. Her research into organizational readiness showed that appropriate site selection lays the foundation for successful program replication, and is dependent on external and internal factors, from geographic location to administrative activities. According to research by Elliot and Mihalic,¹ the factors that are most pertinent to site selection assessment are:

- 1) well-connected and respected organization among locals;
- 2) strong administrative support;
- 3) formal organizational commitments and organizational/staffing stability;
- 4) commitment of necessary resources;
- 5) program credibility within the community;
- 6) potential for program routinization, or the ability to assure program sustainability through the existing budgetary period.

MCN's original partner checklist to assess organizational readiness (which is summarized above in the four characteristics outlined by the Advisory Committee) identifies all of these characteristics. It also asks whether the organization has implemented S/IPV programs in the past. Research suggests that prior outreach experience specific to the subject matter (in this case S/IPV) is not an important factor to consider when completing an organizational readiness assessment. Thus, an organization unfamiliar with S/IPV activities and strategies can be successful in implementing the program design of HU if all other organizational readiness competencies are met.

A breakthrough finding by Irwin and Mihalic has identified a statistically significant association of certain factors of organizational readiness with specific characteristics of program success, such as percentage of core program activities replicated, achieved components, dosage (defined as the ability to implement intervention at its intended frequency), and sustainability.² Their findings shows that dose is directly influenced by program characteristics, technical assistance (TA) quality and quantity, and staff recruitment and retention. Adherence to original program design was influenced by TA quality

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Organizational Readiness Survey: *Hombres Unidos*

ORGANIZATION'S NAME _____ LOCATION _____ DATES OF HU IMPLEMENTATION _____

YOUR NAME _____ CURRENT ROLE IN HU _____

Organizational History with Migrant Community

1. When was your organization established? _____
2. How long has your organization worked with Latino migrant communities? _____
3. Has your organization implemented outreach programs in the past? YES NO
If Yes, what was the program? _____
How long was it implemented for? _____ How many participants _____
4. What has your organization done to address domestic violence in your community prior to HU implementation?

5. Is domestic violence a problem in community? YES NO
6. Is your facility accessible to farm workers? YES NO Close to public transportation? YES NO

Training the Facilitators

1. Describe the length and duration of the training sessions for the facilitators:
Hours per session: _____ Days/Weeks of training program: _____
2. What were the criteria to select the facilitators? _____

3. Did you feel that there was adequate time for the training sessions? YES NO
4. How would you rate the quality of training: Excellent Good Fair Acceptable Poor
5. How would you rate the attendance of the trainees? Excellent Good Fair Acceptable Poor
6. What are some recommendations to improve the training design? _____

Staffing

1. How many administration staff members worked with HU? _____
2. How many total staff members were recruited to work on HU? _____
3. How many staff members working exclusively on HU? _____
4. How many staff members dedicated to HU resigned during the implementation of HU? _____
5. Please rate staff turnover for HU: High Moderate Low
6. How would you rate the attendance of administrative staff? Excellent Fair Poor

Technical Assistance

1. Did you have access to technical assistance throughout the duration of HU? YES NO
2. Did you experience any technical problems when implementing HU? YES NO
If Yes, how quickly were you able to get support? _____
Was the support you received effective in resolving the problem? YES NO

Program Replication Success

Four elements have been identified for successful program replication:

- 1) Consistent implementation of program throughout agreed time period (1 year for HU)
- 2) Percentage of design replicated (Adherence to activities)
- 3) Dosage (Adherence to 5 sessions)
- 4) Achieved components (Achieved intended results of each activity)
Of the above components, which would you compromise first? _____
Of the above components, which would you compromise second? _____
Of the above components, which component are you not willing to compromise at all? _____

Needs Assessments at Canyonlands Community Health Care

Claire Hutkins Seda, Staff Writer and Editor, Migrant Clinicians Network

Editor's Note: This is the first article in an ongoing series by MCN on the 19 program requirements that a health center must meet in order to receive or continue to comply with federal funding requirements from Health Resources and Services Administration, Bureau of Primary Health Care (HRSA/BPHC). In addition to this article on creating needs assessments, this issue of Streamline also features an article on MOUs, the first of several articles on the requirements that address the clinical aspects of FQHC programs.

Canyonlands Community Health Care (CCHC), headquartered in Paige, Arizona, has what appears to be a daunting task: accurately portraying the needs of a diverse population base over a large service area for CCHC's needs assessment requirement. In order to meet the first of the 19 requirements and more importantly to understand how to design a comprehensive medical home for all Canyonlands patients in each of its eight sites, the CCHC staff must analyze a variety of data to create a clear picture of the needs and resources available for the residents of rural and frontier Arizona, along the northern border with Utah and at the southeastern border with Mexico. These populations vary greatly in their education levels, local industries, unemployment rates, ethnicity, access to health care, heritage, and cultural perspectives. Collecting and extrapolating such data, however, have been important for Dr. Latham, the Canyonlands staff, and Board of Directors.

"We do our surveys and questionnaires biannually," explained Dr. Latham, during which they collect data on patient needs and satisfaction. "It is a standard process for us—it's not something we do special for the needs assessment. It's something we're doing continuously."

"We hand them out to patients as part of our PCMH process," Dr. Latham continued, referring to patient-centered medical home, a method of organizing primary care to better serve patients through care coordination and communication. Patients fill the surveys out by hand, and CCHC inputs the information into its database. Every two years, CCHC evaluates the data to determine shifts in patient needs and to assure CCHC programs are meeting expectations and demands. It takes over a year to evaluate the data.

To fill out the picture further for the needs assessment requirement, CCHC then integrates statistics for its service area collected from local, state, and national sources, and creates an extensive narrative on the people in its service area. In the last few years,

CCHC's data points have increased, as a result of updated census information and expanded need for survey data internally. This, in turn, has led to the higher specificity of data presented in the needs assessment, and has increased the "usability" of the document internally, said Dr. Latham. CCHC's most recent assessment was completed at the beginning of 2014; it ran over 50 pages.

Dr. Latham believes that the data is essential to their programs. "We want a needs assessment that's going to be a tool that we can use going forward," explained Dr. Latham. Grant writers within CCHC can quickly filter the overall data through their database to pull out figures on specific topics or populations, without having to go through the extensive process of data collection and analysis.

CCHC uses the data to ensure that its services are meeting the needs of each of its different communities. The data confirm that CCHC is on track with that goal, and also inform CCHC in areas that need improvement, said Dr. Latham. For example, recently CCHC has provided a greater emphasis on cultural competence for its clinicians serving the Native American and Latino populations. The need for that change was found through its needs assessment, Dr. Latham noted.

Dr. Latham also reported that the ongoing needs assessment process allows CCHC to be

more responsive to changes within the service area. In the southeast, copper mining is the largest industry. "With the fluctuation in copper prices, the towns will really grow substantially," Dr. Latham said. "In a period of two years, one community went from being a mining ghost town to booming ... all to do with the changes in copper prices." CCHC already has a small presence in these areas, and their needs assessment evaluations and ongoing data collection informed them of the need to increase their presence as the towns grew. CCHC can more quickly move resources due to their needs assessment processes.

Despite the wealth of information, Dr. Latham recognizes the continued struggle to find relevant and up-to-date data on the disparate and unique rural population segments within CCHC's service area. Often, the urban areas will collect primary data specific to their own use, which is not collected in rural areas, noted Dr. Latham. "We just [tell] the story of the people we actually serve," conceded Dr. Latham, and yet the specificity of the data, highlighting each community CCHC serves, leads to a highly compelling and informative needs assessment, which in turn is utilized internally for grant writing and program evaluation, and, most importantly, is used to help CCHC better serve its patients. ■

■ Evaluating the Implementation of *Hombres Unidos* continued from page 4

and agency characteristics. Community support, TA quality, and inconsistent staffing directly influenced percentage of core program components. Lastly, sustainability was largely determined by program characteristics.

Based on this research, Nulu created an Organizational Readiness Reflection Survey for MCN to analyze the organizational readiness of future clinics interested in implementing HU. The survey addresses five categories: organizational history with the facilitators, staffing retention and quality, TA quality and reliability, and grading program replication success. The survey helps identify which aspects of program success are most valuable for supervisors, and which aspects of organizational readiness need to be improved to align with program success goals.

Next steps

The HU program continues to be rolled out to further its mission of reducing S/IPV. Last month, MCN trained two new facilitators at Ampla Health in Yuba City, California. Their

goal is to have 50 participants in the HU program this coming year. Future organizations that would like to implement HU will be evaluated using the new MCN survey. For the organizations adopting HU, attention to identifying and developing robust organizational components will not only be useful for the implementation of HU, but can also be applied to other outreach programs internally. For MCN, partnerships based on the organizational readiness survey ensure successful implementation and evaluation. ■

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American Academy of Dermatology Outreach Targets Hispanic Outdoor Workers for Skin Cancer Protection

Jan Bowers, American Academy of Dermatology

Skin cancer is less prevalent in people of color than among non-Hispanic whites. That widely held belief happens to be true, and it may partially explain a second fact: When skin cancer does occur in self-defined people of color, it tends to be detected at a more advanced stage and is associated with greater morbidity and mortality than in whites.¹ Thus, it's extremely important that Hispanic outdoor workers understand the risks of sun exposure and the measures they can take to protect themselves, said board-certified dermatologist Abel Torres, MD, professor and chair of the department of dermatology at Loma Linda University. "These patients need to be aware that, yes, they don't get skin cancer very commonly, but when they do get it, it can lead to significant deformity or death," he noted in a telephone interview in July 2014. In addition to sun protection, "it's important that we educate our patients to do skin checks and self-exams, and to see a doctor if they notice a changing mole or a spot that just doesn't want to heal. Primary care physicians who see these patients can also play an important role by emphasizing the importance of sun protection and self-exams, and

referring the patient to a dermatologist if a suspicious lesion is spotted by either the physician or the patient." physician or the patient."

Pilot program in four sunny states

In an effort to mitigate the skin cancer risk among this vulnerable population, the American Academy of Dermatology (AAD) has launched a pilot program targeting Hispanic outdoor workers in California, Arizona, Texas and Florida. The program is funded by a grant from Stiefel. An outgrowth of the AAD's existing SPOT Skin Cancer public education program, the outreach effort brings volunteer dermatologists face to face with outdoor workers at Mexican consulates in two locations within each state. The AAD coordinates with Ventanillas de Salud (VDS) to offer free skin examinations within VDS's broader health screening and education events at the consulates. In addition, the dermatologists provide instruction about effective measures for sun protection (eg, seeking shade, wearing hats and long-sleeved clothing, applying sunscreen) and explain how to perform skin self-examinations. For patients requiring fol-

low-up care, VDS locates dermatologists in the area who have agreed to provide treatment at reduced or no cost. "Coordinating follow-up care is a key part of the program," said Dr. Torres. "The screenings are important, but they're not as helpful if you can't connect people with some kind of service afterwards. The AAD's partnership with VDS strives to help ensure that as many of these patients as possible who have suspicious lesions, are able to see a dermatologist for diagnosis and treatment."

At a recent screening event in the Miami area, three AAD members and two physician assistants screened 61 field workers working in avocado and mango farms, and detected basal cell carcinoma in one person, who was referred for follow-up care. In addition to providing free screenings, a Spanish-speaking dermatologist who volunteers for VDS conducted educational sessions on skin cancer in the waiting room, demonstrating how patients should apply the free samples of sunscreen which were provided for this program. In addition to sunscreen, the AAD distributes Spanish-language educational

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Clinical Services Connection: Why Bother With an MOU?

Jennie McLaurin, MD, MPH, Specialist in Bioethics, Child and Migration Health, Migrant Clinicians Network

Editor's Note: This is the second article in an ongoing series by MCN on the 19 core program requirements that a Federally Qualified Health Center (FQHC) must meet in order to receive federal funding from Health Resources and Services Administration, Bureau of Primary Health Care (HRSA/BPHC). This article on MOUs is the first of several articles specifically addressing the requirements that relate to the clinical aspects of FQHC programs.

H health centers are expected to have a number of assurances in place that demonstrate they are providing comprehensive primary care to the underserved populations in their service area. Things like a community-majority board of directors, a sliding fee policy with nominal fees for the very poor, and the availability of interpreters for those who have limited English proficiency are hallmarks that distinguish patient-centered care in a community health center from that in other sectors of health care. Health centers not only provide top-quality care, they provide evidence of that quality through the 19 program requirements that distinguish a federally-funded program.

One of the federal program requirements that may be unfamiliar to clinicians is the need to have established written arrangements, such as a Memorandum of Understanding (MOU) or a Memorandum of Agreement (MOA), with other organizations or individuals who are providing care to the health center's patients. Specifically, an MOU/MOA is necessary when any of the "required services" are not directly available through the health center. Frequently, prenatal and obstetrical services, dental services, and behavioral health services are not directly provided in small centers, but instead are arranged through referrals. Migrant voucher programs arrange almost all of their care through referrals.

When patients are referred elsewhere, it is easy to lose track of them. For example, pregnant women referred elsewhere for prenatal care may have many choices of providers. How do we as clinicians know they are getting timely prenatal care if we don't provide it? Health centers are responsible for reporting the birth outcomes of patients, even if they get prenatal and obstetrical care through referrals. This is because the federal requirements assume that the health center is responsible for monitoring the quality of care and health outcomes of patients for all basic required



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services. What about the dental needs of patients when there is no dental program at the center? These patients are entitled to dental access through the health center's arrangements. Again, without formal arrangements in place it is difficult to know if care is being provided. An MOU helps assure high quality care when referrals take place. It also allows the center to communicate its vision of community-based, patient-centered care for all patients in need, to the partnering medical community.

An MOU is a document that broadly describes the working relationship between two parties. It is not a legal contract, but it formalizes practices that are often created through verbal agreements or those that have been ongoing without any documentation as to each group's expectations and responsibilities. Federal program requirement expectations of the contents of the MOU are very specific, and many health centers have asked for help in establishing appropriate MOUs. Here, we briefly outline the necessary contents in order to document the spirit of patient-centered care as well as the technical components of an agreement.

For required services that are provided indirectly (not via the health center itself), the following components are necessary in an MOU to meet federal program requirements:

- The manner by which the referral will be made and managed, and the process for

referring patients back to the center for appropriate follow-up care;

- The availability of the service to all health center patients, regardless of ability to pay;
- The availability of a sliding fee discount schedule for all health center patients with a minimum provision of discounts available based on income and family size for individuals at or below 200% of the current Federal Poverty Guidelines, and provisions of no charge or only a nominal fee for individuals at or below 100% of the current Federal Poverty Guidelines;
- The assurance of a mechanism for the health center to track patients and provide follow-up care.

Additional components typically include: the name of the health center; the name of the partnering organization or individual; the service being provided; the rationale for the agreement; the contributions of both parties to the oversight of the quality and provision of services; the hours or dates the service is available; and the duration of the agreement. It is preferable that MOUs have defined time limits, such as two years, with review of terms at the conclusion of the time limit. MOUs should be signed and dated by the responsible lead personnel of all parties in agreement. MOUs must be presented to the health center's board for recognition and

approval.

At times, a health center has been obtaining required services without an MOU, and when an MOU is requested in order to comply with requirements, the other party does not wish to sign a document, even though they are willing to continue service provision. In this case, all attempts to obtain an MOU should be well documented. Additionally, a formal MOU should be drawn up, even if not signed. Board minutes should reflect that the health center's board has approved the unsigned MOU and has attempted to obtain the second party's signature.

MCN provides a number of resources to support health centers in meeting HRSA requirements for FQHC funding, including two example MOUs to help health centers establish written arrangements. Visit our online toolbox at http://www.migrantclinician.org/tools-and-resources/toolbox_intro.html and click HRSA Grant Requirements to view the following two documents.

MOU Example 1: The first demonstrates an MOU that meets program standards according to minimal standards.

MOU Example 2: The second example shows the possibility for infusing the health center mission into the language of an MOU, embracing the spirit as well as the law of the arrangement. ■

■ AAD Outreach Targets Hispanic Outdoor Workers for Skin Cancer Protection continued from page 7

brochures about skin cancer and sun protection at the events.

The AAD conducts free skin cancer screenings throughout the year for the general public through its SPOT me™ program. Individuals who cannot attend one of the VDS screening events can find a free skin cancer screening at www.spotme.org.

Beliefs drive behavior

To develop its Hispanic outreach program, the AAD reviewed existing research and conducted its own focus group with Hispanic immigrants from Mexico to guide its decision-making process.

The AAD's Hispanic outreach program is in keeping with the findings of Agbai et al,¹ who cite a survey by the Skin of Color Center in New York, in which black and Hispanic respondents "self-reported low sunscreen use, secondary to misconceptions that it is unnecessary to use sun protection to prevent photoaging or skin cancers. If used at all, sunscreens were generally insufficiently applied and not reapplied frequently enough."² Fortunately, other studies indicate that education does have a positive impact.

The authors describe another study³ in which the participants (15 percent of whom were Hispanic) were instructed how to identify potentially abnormal moles during skin self-examination. The participants also completed questionnaires evaluating their attitudes, practices and beliefs before, immediately after, and three months after the instruction. The educational intervention was shown to improve knowledge about the risks and the signs of melanoma. Moreover, "practices such as performance of monthly self-skin checks, particularly of palms, soles, and periungual skin, dramatically improved after the intervention."

Primary care physicians play essential role

Sun protection is likely not a top priority for outdoor workers because "they know they have to be out there since it's how they earn a living, and they also don't think they're at high risk, as some other individuals [are]," said Dr. Torres. "Primary care physicians can partner with dermatologists to help educate their patients about the importance of skin cancer detection and prevention."

He noted another issue: "People think

skin cancer isn't that big a deal; they think it's more of a nuisance. Well, most skin cancer is a nuisance, but if it's left alone long enough it can cause significant deformity and can kill." He noted melanoma, squamous cell carcinoma, and basal cell carcinoma can all cause morbidity and mortality. "Most skin cancers are treatable, [and] most cause more morbidity than death, but a significant number can be very serious, and the paradox is that the individuals who are less likely to get skin cancer are the ones who are at higher risk of having a more serious problem with skin cancer," Dr. Torres stated. ■

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■ Care in the Black Dirt Region: Profile of Kathy Brieger *continued from page 2*

have positive outcomes beyond work safety, as the farmers and agricultural workers worked together. "The adversarial relationship," that sometimes exists between agricultural workers and their employers "doesn't get us anywhere," she noted. She enjoyed watching the two groups "work together to make something good happen."

Continuing issues for agricultural workers

Despite the increase in services, Brieger recognizes the ongoing struggles for agricultural workers as the region changes. "There's a lot more mechanization," on farms, said Brieger, leading to a decline in the need for migratory and seasonal agricultural workers. "People are really scrambling for other work," she has noticed. "More people are staying. There's not as much movement," as agricultural workers settle into other permanent jobs in her region.

Those remaining in the agricultural sector face new problems, compared to the workers of 30 years ago. Many farmers have stopped providing housing for seasonal workers. As a result, explained Brieger, "farmworkers have now had to get apartments, and share apartments, sometimes two families or three families" per apartment, and are often far from their rural jobs. Transportation to the farms is extremely challenging, she added.

Immigration reform is another hardship for

migratory and seasonal agricultural workers, as it "impacts everything [from] having transportation, being able to get to and from their jobs, and health services, [to] after-school activities for their kids," Brieger said. "There is so much animosity, with this immigration issue, that people are feeling vulnerable. I think that really overshadows everything, including many aspects of their health."

Clinician connection

Brieger notes that connection to other clinicians focused on mobile patients can make a big difference. "When I first started, I really didn't know who to talk to or where to go," for support in migrant health, she said. She initially encountered MCN at her first East Coast Migrant Health meeting. She remembers the thrill of coming together as migrant clinicians who encountered similar issues, and she recalls thinking, "I've found my tribe," she remembered with a laugh. "It was my happy day!"

"Sometimes the work we do is very challenging," she admitted. "It's exhausting because you try to get whatever help you can, whether it's a winter coat, a blanket, or even food," but working with other clinicians addressing similar issues can be inspiring, providing perspective, new ideas, and resources. "I think that challenge [of working with mobile populations] can really wear people out," Brieger said, "but having that community support makes all the differ-

ence." She continues to see a need for more resources to strengthen the connection between clinicians involved in mobile patient care throughout the country. "I think that connecting other clinicians in the field with people who are doing right work remains a very important role that MCN can play," she said. "There are such unique challenges to the migrant community," Brieger explained, saying MCN and clinicians both have a duty to "keep the migrant issues on the forefront."

Meanwhile, Brieger will continue to push forward programs to support the local mobile population. Over the years, Brieger has found herself part of the community – attending quinceañeras, weddings, and funerals, and watching children grow up. She finds the community "giving and kind," adding, "They embody the best characteristics of what I think we should be about in this country." Recently, she hosted a pool party for the teenagers in the health center's programs. "[For] at least four of them, I had known their fathers or mothers as little kids. No wonder they look familiar!" Brieger exclaimed.

"It thrills me, and reminds me why I came into this line of work – because you can really make a difference in their lives, and they are so appreciative of everything you do for them," Brieger says of her patients. "I think I get so much more out of this than they do, and it makes me happy," she added with a laugh. ■

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Dr Jose O. Rodriguez: Providing Care in Rural Puerto Rico

Ileana M. Ponce-Gonzalez, MD, Senior Advisor for Scientific and Strategic Planning, Migrant Clinicians Network

As a young child in Puerto Rico, Jose O. Rodriguez Ramos, MD didn't have much time to daydream; in addition to attending school, by the age of eight he had already started to work to assist his family financially. But he knew he wanted to be a doctor. Recently, Dr. Rodriguez recalled visiting the local Hospital de San Sebastian as a child, where he peeked through the windows to get a better sense of what went on inside. When needing care himself at the hospital at a young age, he enjoyed watching the dynamics and teamwork of the clinicians. Despite the economic struggles, Dr. Rodriguez fulfilled his dream, and now works as a doctor in a rural hospital in Puerto Rico that serves the local agricultural worker community.

Dissatisfaction with treatment: Early experiences in medicine

With community and family support, young Jose joined a high school program for disadvantaged students interested in medical school. While studying pre-med, he sometimes encountered inhumane treatment of patients in the emergency room where he was stationed, and he felt driven to change that environment in his own future practice.

Upon completion of his undergraduate studies, he received a grant from the National Health Service Corps (NHSC) to study medicine at the University of Puerto Rico. After graduating with honors in family medicine, he completed his residency at the Hospital Family Alejandro Otero and Manatee Hospital in San Pablo Bayamon, both rural hospitals serving high numbers of agricultural workers. He found inspiration in working with low-income people with high levels of need. During his residency, he was exposed to the full range of health and wellness issues in the locals' lives, from assisting in childbirth to attending the funeral of a patient. The residency was unforgettable for Dr. Rodriguez. There, he met his wife, Carmen; he buried his father; he got married; and his wife gave birth to their first daughter, Mayra Alejandra.

Physician at Castañer General Hospital

After completing his residency in 1990, he



began work as a family physician at Castañer General Hospital, where he still currently works. The rural hospital serves a population of approximately six thousand inhabitants, of which 80% are agricultural workers, many from the local industries of sugar cane, plantains, and coffee. The high number of agricultural worker patients keeps the hospital in line with its mission to serve economically disadvantaged populations, and the associated funding to serve those populations. He has received many awards for his clinical work. For six years, he has been the medical

director of the hospital. Interested in issues affecting the community, and inspired by the work of Amy Liebman, the director of environment and occupational health at MCN, Dr. Rodriguez began to implement an education program for migratory agricultural workers with attention toward protection from and prevention of pesticide poisoning, utilizing some of the program work on pesticide exposure developed by MCN. Dr. Rodriguez's program helps agricultural work-

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Pyrethroid exposure and diabetes?

Matthew C. Keifer MD, MPH, Editor, *Journal of Agromedicine*; David L. McClure PhD, Associate Editor, *Journal of Agromedicine*

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Diabetes is a set of complex hyperglycemic metabolic disorders characterized by dysfunction in insulin hormone secretion and/or insulin resistance by target cells.¹ Development of the two major types of diabetes are distinguished by destruction of beta cells in the pancreas (type 1) or by a combination of insulin resistance and inadequate compensatory insulin production (type 2). Type 1 diabetes is usually immune-mediated and discovered in adolescence or young adulthood. Type 2 diabetes is generally diagnosed in middle age, although it can also occur in obese adolescents. Type 2 diabetes accounts for approximately 90% of all diabetes cases and is associated with obesity, high caloric diet, physical inactivity, and advanced age. Hyperglycemia is the hallmark of diabetes and is detected by elevated levels of serum glucose or glycosylated hemoglobin (HbA1c) or an oral glucose tolerance test. Intermediate elevation of these markers is considered to be indicative of the pre-diabetes phase.

In this issue of the *Journal of Agromedicine*, Hansen et al² present findings from a controlled, cross-sectional study of pesticide applicators in Bolivia. The study explores the prevalence of pre-diabetes, as determined by

elevated HbA1c levels, and its relationship to pyrethroid exposure. This study found a remarkably high prevalence of elevated HbA1c values (> 5.6%) of 61% among pesticide applicators who applied pyrethroids in public vector control campaigns in Bolivia. In contrast, the prevalence in controls composed of non-spraying employees of the vector control centers, university students, and "others" was 8%.

When pesticide sprayers were compared to controls, the adjusted odds ratio for elevated HbA1c was very high at 11.8 (95% CI 4.2 – 33.2). This value increased to 18.5 (95% CI 5.5 – 62.5) when the analysis was restricted to sprayers who had only ever sprayed pyrethroid pesticides. Dose-response to quintiles of spraying duration and spraying intensity did not reach statistical significance, but both raw and adjusted quintiles of spraying duration showed a statistically significant trend for sprayers with exclusive pyrethroid exposure.

Worldwide, the age-adjusted prevalence of diabetes has increased each decade since 1980,³ paralleling the increase in the prevalence of obesity.⁴ However, not all of the increase in diabetes can be explained by higher rates of obesity. Globally, the prevalence of type 1 diabetes has also increased⁵ and a higher proportion of Asians with type 2 diabetes are of normal weight compared to Europeans with diabetes.⁶ These findings have prompted the search for possible environmental factors that may be

linked to the diabetes pandemic. Persistent organic pollutants, including organochlorine pesticide residues, have been associated with type 2 diabetes in epidemiologic studies.⁷ Agricultural workers in particular have had high exposures to many of these organic compounds. From 1993 – 2003, the Agricultural Health Study prospectively studied over 45,000 licensed pesticide applicators and their spouses in Iowa and North Carolina and found an elevated incidence of self-reported diabetes associated with use of organochlorine and organophosphate pesticides.⁸

Organochlorine pesticides have been largely abandoned due to environmental concerns and use of organophosphates has been reduced dramatically in the US over the past two decades due to concerns regarding acute toxicity. Pyrethroids have replaced many of these chemicals in agricultural applications and have almost completely replaced most other chemicals for non-commercial household pest control.^{9,10} Pyrethroids are a synthetic derivative of pyrethrins, originally processed from chrysanthemum flowers. Although pyrethroids were shown in one older study to alter glucose metabolism in rats,¹¹ the potential for pyrethroid exposure to alter glucose regulation or diabetes onset has only relatively recently been investigated in humans.

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[Editor's Note: This article is excerpted from *Environmental Health News*. Please visit their website for the complete article. Konkel L. Autism risk higher near pesticide-treated fields, study says. *Environmental Health News*. June 23, 2014. <http://www.environmentalhealthnews.org/ehs/news/2014/jun/autism-and-pesticides>. Accessed October 27, 2014.]

Autism risk higher near pesticide-treated fields, study says

Lindsey Konkel, Environmental Health News

Babies whose moms lived within a mile of crops treated with widely used pesticides were more likely to develop autism, according to [research published in June, 2014].

The study of 970 children, born in farm-rich areas of Northern California, is part of the largest project to date that is exploring links between autism and environmental exposures.

The University of California, Davis research – which used women's addresses to determine their proximity to insecticide-treated fields – is the third project to link prenatal insecticide exposures to autism and related disorders.

"The weight of evidence is beginning to suggest that mothers' exposures during pregnancy may play a role in the development of autism spectrum disorders," said Kim Harley, associate director of University of California, Berkeley's Center for Environmental Research and Children's Health. She was not involved in the new study.

One in every 68 U.S. children has been identified with an autism spectrum disorder – a group of neurodevelopmental disorders characterized by difficulties with social interactions, according to the Centers for Disease Control and Prevention.

"This study does not show that pesticides are likely to cause autism, though it suggests that exposure to farming chemicals during pregnancy is probably not a good thing," said Dr. Bennett Leventhal, a child psychiatrist at University of California, San Francisco who studies autistic children. He did not participate in the study.

The biggest known contributor to autism risk is having a family member with it. Siblings of a child with autism are 35 times more likely to develop it than those without an autistic brother or sister, according to the National Institutes of Health.

By comparison, in the new study, children with mothers who lived less than one mile from fields treated with organophosphate pesticides during pregnancy were about 60 percent more likely to have autism than children whose mothers did not live close to



treated fields. Most of the women lived in the Sacramento Valley.

When women in the second trimester lived near fields treated with chlorpyrifos – the most commonly applied organophosphate pesticide – their children were 3.3 times more likely to have autism, according to the study, published in the journal *Environmental Health Perspectives*.

Chlorpyrifos, once widely used to kill insects in homes and gardens, was banned for residential use in 2001 after it was linked to neurological effects in children. It is still widely used on crops, including nut trees, alfalfa, vegetables and fruits.

The study also is the first to report a link between pyrethroids and autism. Application of pyrethroids just prior to conception meant an increased risk of 82 percent, and during the third trimester, the risk was 87 percent higher.

That finding is particularly concerning because "pyrethroids were supposed to be better, safer alternatives to organophosphates," said the study's senior author, Irva Hertz-Picciotto, an epidemiologist who leads the UC-Davis project to investigate environ-

mental and genetic links to autism.

Use of pyrethroids has increased in recent years, both on farms and in the home, due to bans of other insecticides. Some studies now suggest pyrethroids may carry risks for developing fetuses.

The autism risk that could be attributed to an individual pesticide is likely slight, said Alycia Halladay, senior director for environmental and clinical sciences at the nonprofit Autism Speaks. "We need to understand how multiple exposures interact with each other and with genetics to understand all that is involved in the causes of autism," she said.

But while the risks reported in the study pale in comparison to some hereditary factors, Hertz-Picciotto said they are comparable to other risks for autism, such as advanced parental age or not taking prenatal vitamins.

"In any child who develops autism, a combination of genetic and environmental factors are at work. There's an accumulation of insults to the system. What we're seeing is that pesticides may be one more factor that for some kids may push them over the edge," she said. ■



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Become an Environmental/Occupational Health Center of Excellence!

Migrant Clinicians Network (MCN) has developed a program to improve care in the primary care setting, supported through a cooperative agreement with the US Environmental Protection Agency (EPA), Office of Pesticide Programs as part of the National Strategies for Healthcare Providers: Pesticide Initiative.

MCN partners with interested federally-funded Community and Migrant Health Centers (C/MHC) in a year-long collaboration to develop simple, practical and flexible adaptations to integrate EOH into the primary care setting. These system changes are designed to assist the C/MHC and its clinicians to reach the following goals:

- to improve clinicians' skills in the recognition and treatment of environmental and occupational health problems;
- to develop clinical systems that will sup-

- port risk assessment, management and documentation of EOH issues;
- to support the C/MHC in attaining or maintaining Patient-Centered Medical Home (PCMH) and Meaningful Use recognition by integrating improvements into the organization's Electronic Health Records (EHR) and Quality Improvement programs;
- to assist Migrant Health Centers to fulfill the Health Resources Services Administration (HRSA) expectation that they "deliver comprehensive, high quality, culturally-competent preventive and primary health services to migrant and seasonal farmworkers and their families with a particular focus on the occupational health and safety needs of this population." <http://bphc.hrsa.gov/about/specialpopulations/index.html>; and
- ultimately, to improve the health status of the health center's migrant population

through quality healthcare services that respond to their unique needs.

Utilizing a performance improvement model, both administrative and clinical staff participates in order to ensure success. MCN works directly with a "clinician champion," typically the medical director, who is willing to spearhead the clinic-based program, along with a team of key staff members.

MCN designates a C/MHC partner as an MCN Environmental and Occupational Health Center of Excellence. This project is overseen by a national advisory committee with expertise in migrant health, primary care and occupational and environmental medicine.

Follow this link to find out more about becoming an EOH Center of Excellence, http://www.migrantclinician.org/files/MCN_EOH_Description.pdf

■ Dr Jose O. Rodriguez: Providing Care in Rural Puerto Rico continued from page 11

ers learn how to prevent pesticide poisoning by simple measures such as leaving shoes outside and removing clothing before going home. Through this program, he began to visit and train agricultural workers at the local church, community center, and farms. The program is popular, because the owners of the farms receive a certificate, and participants receive a card that certifies they received education on the prevention of pesticide poisoning. This program has helped to significantly reduce exposure to pesticides. Agricultural workers are evaluated at least twice a year.

Struggles and successes in migrant health

Dr. Rodriguez's pesticide exposure prevention program initially encountered opposition from farmers, who did not want agricultural workers to be trained

during working hours. But even after farmers got on board, barriers to safety remain; because Puerto Rico's pesticides are packaged for the US market, warning labels are typically only in English. Very few of the workers understand English, leading to the possibility of an increase in pesticide exposure incidents.

One of the greatest satisfactions from his work is the love and gratitude of his patients, who are often struggling to survive. He points to the recent case of a farmer whose illness turned out to be caused by a toxin from ingesting snails -- an indication that the farmer's food sources were not sufficient. These experiences have motivated him to continue working for agricultural workers, particularly in light of the lack of attention by some of his colleagues to the problems facing agricultural workers, he said.

Beyond pesticide exposure prevention,

Castañer General Hospital runs a number of projects to battle chronic disease. Dr. Rodriguez is proud that he and his faculty are participating currently in the management and prevention of diseases such as asthma, diabetes, and hypertension and cancer prevention with their agricultural worker population.

For Dr. Rodriguez, MCN has been an organization that has supported him in preventing problems from pesticide exposure prevention, to training clinicians. For the future, Dr. Rodriguez hopes MCN can push for a physician exchange, wherein US doctors live and work in a rural Puerto Rican setting. Puerto Rican doctors, in turn, would spend time in US hospitals: "I wish MCN could also support [physicians] in an exchange of physicians from Puerto Rico, with US doctors, who work in rural areas." ■

■ Pyrethroid exposure and diabetes? continued from page 12

Consistent with the findings presented by Hansen et al,² a 2011 study of 3,080 Chinese agricultural workers found that pyrethroid exposures were significantly associated with a 50% increase in the prevalence of abnormal glucose regulation compared to those unexposed.¹² Notably, the Agricultural Health Study did not find an association of self-report diabetes and pyrethroid use.⁸

The Hansen et al² study published in this issue does have some fundamental flaws. The cross-sectional design, while sometimes the only practical option, is itself is a weak

model to explore such associations as uncontrolled and unanticipated factors may bias results. Additionally, the study groups were not well-matched. Pyrethroid exposed workers were older than the largely non age-overlapping control population. This leads to less control of potential confounders in regression modeling and more potential for biased estimates.¹³ Exposures were also self-reported with potential for recall bias.¹³ Nevertheless, internal analysis of exposure duration suggested a direct dose response between pyrethroid exposure and odds of

elevated HbA1c, which supports the cross group comparison results and should be relatively unbiased.

This study juxtaposes two important trends seen in the US and worldwide, namely increasing glucose intolerance and increasing pyrethroid use, and presents the hypothesis that the two may be causally related. Given the importance for world health that this trend represents, any potential causal association should be explored further with more robust study designs, larger samples, and more objective exposure assessment. ■

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Migrant Clinicians Network
 P.O. Box 164285
 Austin, Texas, 78716
 Phone: (512) 327-2017
 Fax (512) 327-0719

E-mail: jhopewell@migrantclinician.org

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