

# Environmental Health Perceptions Among Clinicians and Administrators Caring for Migrants

Amy Liebman, MPA, MA and Susan Harper, BA

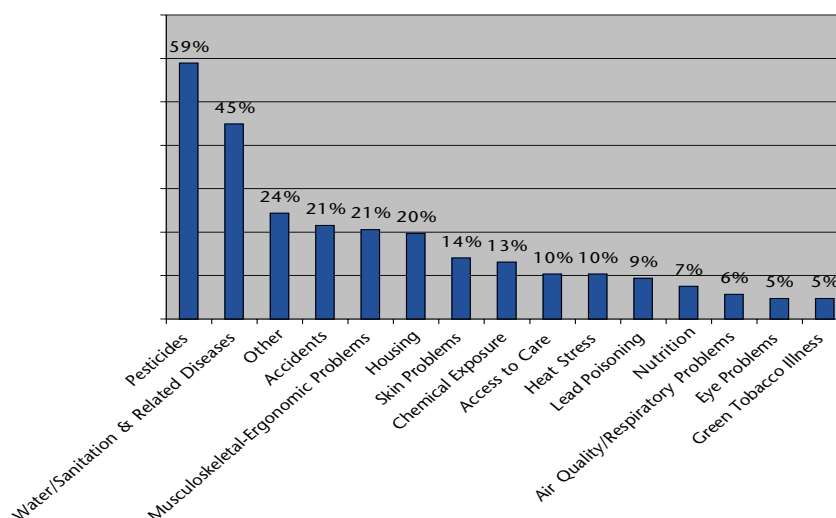
In the final quarter of 2000, the Migrant Clinicians Network (MCN) conducted a needs assessment to gauge the environmental health knowledge and needs of clinicians working with migrant farmworkers. This work was funded by a cooperative agreement that MCN has with the Agency for Toxic Substances and Disease Registry (ATSDR).

To conduct the needs assessment, MCN developed two survey instruments, one for executive directors of Migrant Health Centers and one for MCN member clinicians. We received a total of 164 responses to the surveys. This report overviews the preliminary findings of this needs assessment.

## Environmental and Occupational Health Problems and Training Needs

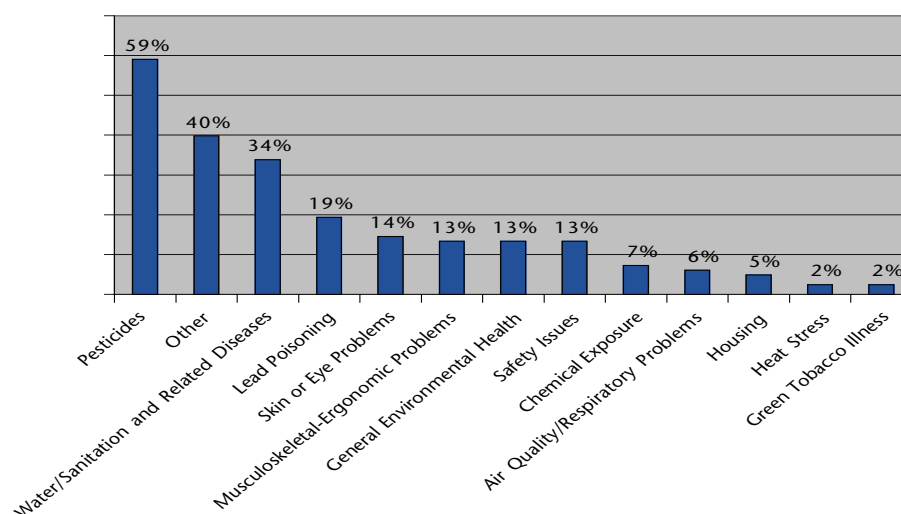
According to the clinicians surveyed the three most important environmental and occupational problems facing farmworkers are exposure to pesticides, water and sanitation problems and related diseases and musculoskeletal or ergonomic problems. For the most part, the clinicians' perception of problems reflected their training priorities. Clinicians feel they would benefit from trainings on pesticides and water and sanitation related issues. Although not cited as one of the most important environmental and occupational health problems, clinicians also feel they would benefit from training regarding lead poisoning. The administrators largely echoed the clinicians in their perception of the most important problems facing farmworkers — pesticides and musculoskeletal problems. The clinicians, however, were more likely to list water and sanitation as

**Figure 1. Most Important Environmental and Occupational Problems According to Clinicians**



Other Includes: Diabetes, Education, Non-Water and Sanitation Infectious Diseases, Hyperlipidemia, Alcoholism and Poverty

**Figure 2. Environmental and Occupational Health Training Needs According to Clinicians**



Other Includes: Zoonoses, Child Labor, Chronic Disease Management, CPR, Diabetes, Cultural Sensitivity, First Aid, Hyperlipidemia, Nutrition, Non-Water and Sanitation Infectious Diseases, Resources

a significant problem.

Due to the open-ended nature of the question asking clinicians to list environmental and occupational health problems facing migrant farmworkers, numerous clinicians listed responses that are not necessarily traditional environmental and occupational health problems, but are significant problems related to health. For instance access to care is a problem that was often cited by the clinicians. This was an important finding, in that access to care was not the objective of the survey but was cited by 12% of respondents. In order to address environmental and occupational health problems, it is necessary to recognize basic problems such as access that may be first and foremost on the minds of clinicians.

## Barriers to Training

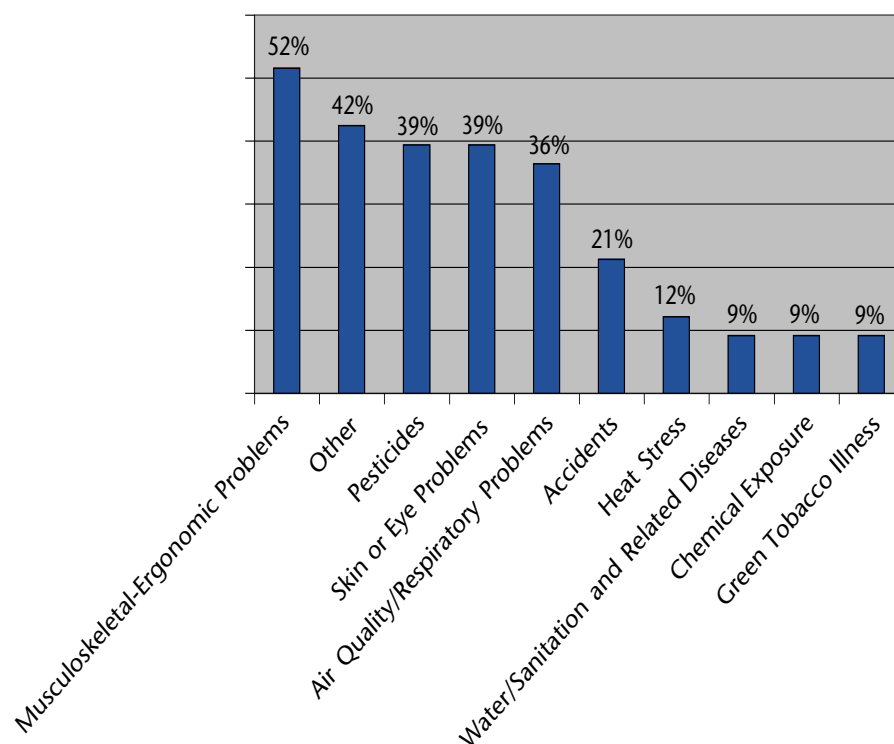
Not surprisingly, clinicians report that the lack of time and limited funds are some of the most significant barriers to attending environmental health trainings. Clinicians also report that a significant barrier to environmental health training is a lack of awareness of available training. This finding is informative as it is a barrier that can be more easily addressed programmatically than the other two barriers. The lack of awareness of training can be dealt with through better promotional efforts.

## Effective Training Formats

Despite the current emphasis on distance learning and new media for trainings, clinicians still prefer trainings in which the facilitator is present. Clinicians list non-interactive internet-based trainings and live broad casts as the less effective training methods in comparison to the other formats. However, it is also worth noting that only 30% of respondents had taken a training course via the Internet. Audio or videotape trainings and interactive CD Rom and Internet trainings are reported to be moderately effective.

While the survey showed that clinicians find interactive CD Rom and Internet trainings moderately effective, clinicians are not utilizing these formats at very high rates despite access to computers for training. Approximately 87 percent of respondents reported that

**Figure 3. Most Important Environmental and Occupational Health Problems According to Administrators**



Other Includes: Chronic Disease Management, Otitis Media, Diabetes, Mental Health, Substandard Housing, Drug and Alcohol Abuse, Smoking, Obesity

**Table 1. Reported Barriers to Training According to Clinicians**

|                        | Not at All | Moderately | Very Much |
|------------------------|------------|------------|-----------|
| Time                   | 9.3%       | 48.1%      | 42.6%     |
| Lack of interest       | 78.3%      | 18.9%      | 2.8%      |
| Budget/travel          | 13.9%      | 52.8%      | 33.3%     |
| Supervisor disapproval | 77.0%      | 20.0%      | 3.0%      |
| Not aware              | 13.3%      | 57.1%      | 29.5%     |
| Need for CE credit     | 44.8%      | 36.2%      | 19.0%     |

**Table 2. Effective Training Formats According to Clinicians**

|                          | Not Effective | Moderately Effective | Highly Effective |
|--------------------------|---------------|----------------------|------------------|
| Audio/Video tape         | 8.8%          | 60.2%                | 28.3%            |
| In-person workshop       | 1.8%          | 17.9%                | 78.6%            |
| In person multi-subject  | 1.8%          | 30.1%                | 63.7%            |
| Internet interactive     | 8.9%          | 44.6%                | 22.3%            |
| CD Rom interactive       | 9.7%          | 38.9%                | 27.4%            |
| Non-interactive internet | 19.3%         | 43.1%                | 8.3%             |
| Print based              | 8.0%          | 61.6%                | 23.2%            |
| Live broadcast           | 16.1%         | 46.4%                | 22.3%            |

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## Environmental Health Perceptions

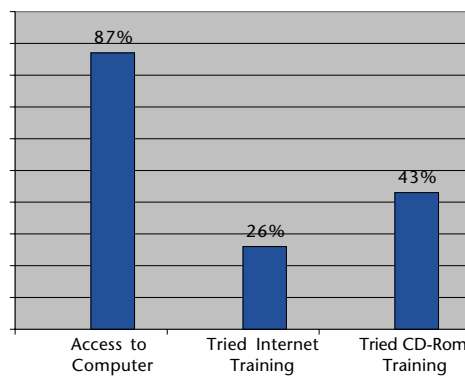
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they have access to a computer where they can use the Internet for continuing education purposes. Only 30 percent say that they have tried a training on the Internet, while 43 percent report having tried CD-Rom based trainings.

### Clinician Training in Environmental and Occupational Health

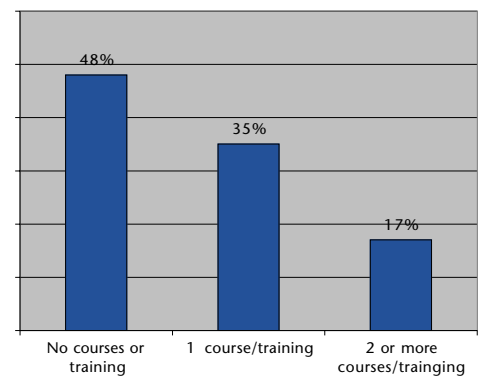
Approximately half of clinicians surveyed (48 percent) have not had any training or courses related to environmental and/or occupational health. Only 17 percent of the clinicians surveyed had two or more courses related to environmental or occupational health, and 35 percent stated that they had one course or training in environmental or occupational health. When broken down by profession, physicians, dentists, nurse practitioners, physician assistants tend to have had less

**Figure 4. Clinician Access and Use of Computers for Training**



formal training in environmental or occupational health than outreach workers, health educators, LVNs and nurses aides. Regardless of profession, the overwhelming majority of clinicians (83 percent) listed no courses/training or only one course/training pertaining to environmental or occupational health.

**Figure 5. Clinician Training in Environmental or Occupational Health**

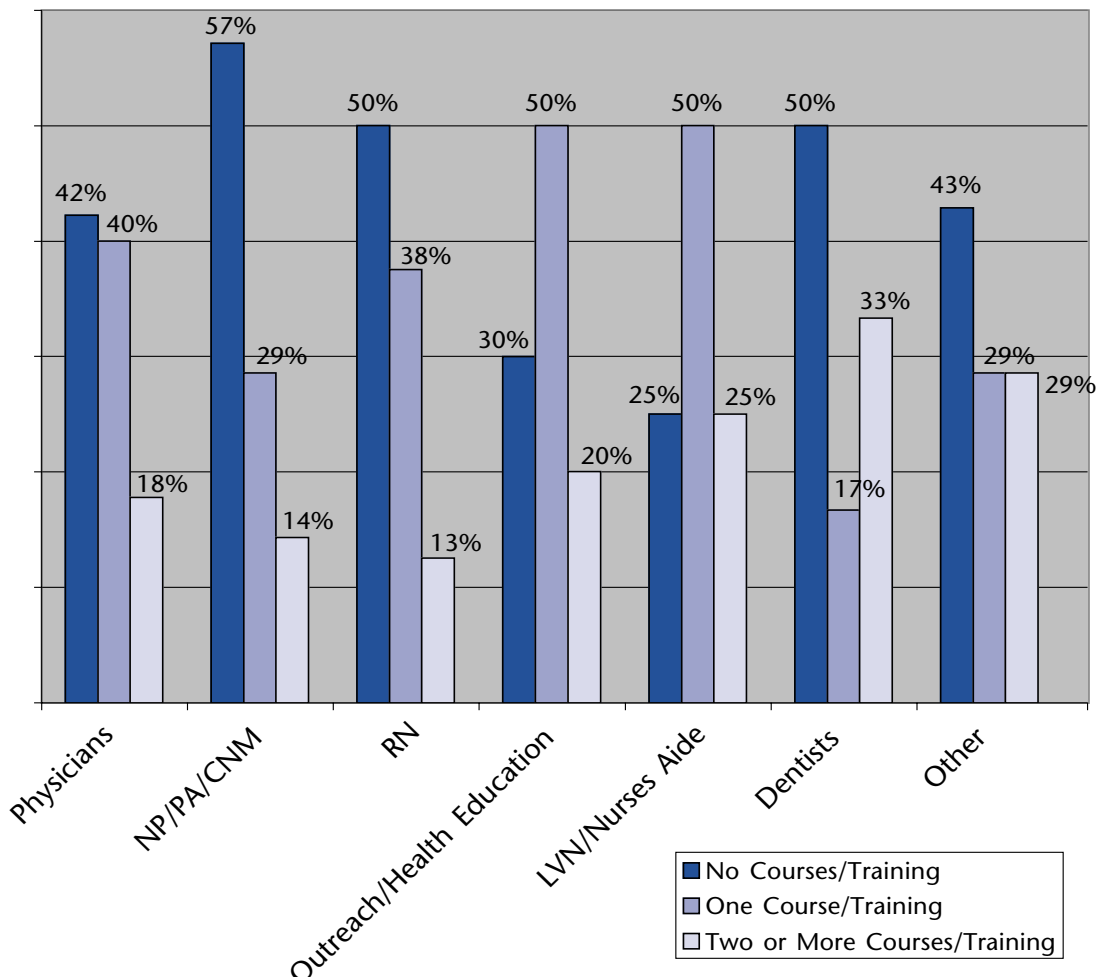


### Resources

To try to determine program areas to develop in addition to training, clinicians were asked 1) to list other resources that would help them address some of the environmental health problems facing their patients; and 2) to list resources or

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**Figure 6. Environmental or Occupational Health Training by Profession**



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contacts that they currently use to help them address environmental health problems. Clinicians report that they currently use the following resources in addressing environmental health problems among farmworkers: state and local health departments, universities and agricultural extension services, non-profit organizations (including MCN), written resources, peer networking, EPA, poison control centers, and other federal agencies. Table 3 lists additional resources clinicians would like to help them address environmental health problems.

The information gathered in this needs assessment will be used to inform MCN's future environmental health programs. Any additional information or questions should be directed to Amy Liebman at 410-860-9850 or [aliebman@intercom.net](mailto:aliebman@intercom.net) or Jillian Hopewell at 530-345-4806 or [jhopewell@migrantclinician.org](mailto:jhopewell@migrantclinician.org).



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**Table 3. Resources In Addition to Training to Help Clinicians Address Environmental Health Problems**

- **Patient Educational Materials**
  - Videos
  - Brochures
  - Public service announcements on television and radio.
  - Outreach
- **Hotlines and toll-free numbers to call for information**
- **Roundtables with other providers**
- **More local/regional information**
  - Statistics regarding environmental health problems
  - demographic information
- **More training done locally**
- **Audio-video taped lectures**
- **Regular updates**
  - Mail
  - List-serve
- **Written reference materials**
  - Journal articles
  - Newsletters
  - Websites
  - Books
  - Reference Books
- **Clinical Consultants**
- **Access to trained personnel/technical assistance from**
  - Clinics
  - Universities
  - Agricultural extension agencies
  - State and Federal agencies
- **Trained support personnel**
- **"Hands-on" Training**
  - Medical rotations
  - Experience ("on the job training")
  - Field experience in different locations with different farmworker populations
  - Interaction with growers

## Join Us in Celebrating MCN's 2001 Unsung Hero!

In 1990, MCN established the Annual Unsung Hero Award to honor on of the unrecognized clinicians in the field of migrant health. Unsung Hero award winners are distinguished by their demonstrated dedication to migrant health, innovation in service delivery and prevention strategies, clinical leadership, and lack of previous recognition for their contribution to migrant health.

This year's award winner is Lori Talbot, MD from Community Health Care, Inc. in Bridgeton, New Jersey. Sandra Heritage, Dr. Talbot's co-worker at Community Health Care, had the following to say about Dr. Talbot:

"Dr. Lori Talbot has a passion to help the migrant farmworker. Southern New Jersey has a large migrant population and Dr. Talbot goes above and beyond to provide medical care to the migrant workers and their families. Our health center has special migrant nights during the migrant season when we provide transportation from the farms into the health center. These nights are hectic and Dr. Talbot staffs the majority of the migrant evenings because of her passion to make sure the migrant workers receive excellent care. She has self-taught herself Spanish to better provide care to her patients. She has volunteered for medical teams that visit migrant camps to provide education and screenings. She is continuously educating staff on the plight of the migrant workers with new articles and books with pictorials of the migrant way of life. I grew up in Southern New Jersey and misunderstood the migrant worker, until I started working at Community Health Care 5 years ago. With Dr. Talbot's help I now have an appreciation for the hard work and integrity of the migrant farm worker."

# Limited Literacy: A Challenge to Patient Education

Paul Tracey

*The following is excerpted from an article by Paul Tracey, president of Tracey Associates and Transcultural Communications in Bridgewater, NJ, a health care advertising agency with special communication programs for low-literacy, minority, and elderly audiences. Mr. Tracey can be reached at 908-707-3996 or [www.traceyassociates.com](http://www.traceyassociates.com)*

Nearly half of all adult Americans—over 90 million people—have marginal language and math skills that leave them ill-equipped to cope in today's increasingly complex, technical world. As health care consumers, these Americans often become victims of a health care system they don't understand and are unable to navigate.

## KEEP IT SIMPLE

Marginal literacy adversely affects patients' use of medications in many ways. People with literacy problems may:

- fail to realize they need medical care, and perhaps medication, for their health problems
- fail to fill prescriptions because they are unable to understand their doctors' instructions
- misunderstand prescription labels, leading them to use medications improperly or discontinue them prematurely
- be unable to decipher over-the-counter labels, leading to lost sales or misuse
- ignore or misunderstand direct-to-consumer advertising

Poor compliance or noncompliance generated by those and other factors negatively affects clinical outcomes.

## REALITY CHECK

Although researchers agree that the "average" American reads at the 8th-grade level and large segments—two out of five—of older Americans and inner-city minorities read at or below the 5th-grade level, studies show that many of the patient education materials produced today are written at the 10th-grade level and are not "patient friendly." Those studies show that many patient materials contain too much information, provide too little reader interaction, and include unfamiliar terms that fail to be explained with examples.

Product managers often say: "My agency said this brochure was written at

an 8th-grade level." They need to ask their agencies how the reading level was determined. Frequently, agencies use one of a dozen or more computer programs to calculate the grade level of a written piece. Those programs apply one or more "readability formulas" to the text. Most of the formulas are based on the average number of syllables per word and words per sentence in the piece. Some programs suggest changes to improve the readability score.

Although computerized readability programs provide a fast and easy starting point for analyzing materials, they have many shortcomings. The readability formulas apply only to prose, not headlines, tables, bulleted points, or lists—the very things that pull reluctant readers in and help them along the continuing learning process.

Programs using only formulas fail to account for other factors that can affect readability and comprehension, such as layout, graphics, typeface, and type size. Programs are unable to tell if short and common words are used in an unfamiliar context, if jargon or uncommon phrases are used—for example, "increase your risk"—and have no way to measure whether the text presents too much new information.

Other evaluation methods are available to supplement readability formulas and provide a more comprehensive analysis. Some employ a checklist of attributes, including organization, writing style, appearance, and appeal.

Others incorporate characteristics of the target population and the objectives of the piece. For example, the Suitability Assessment of Materials test looks at content, literacy demand, graphics, layout and typography, learning stimulation/motivation, and cultural appropriateness.

Another key evaluation tool is field testing of the piece with members of the target audience. Because of time and budget constraints, agencies often skip this important step. But they should still use computer models only as an aid, not for making final decisions.

## WAYS TO GO

In perfect world, written patient materials would never be stand-alone items. They

would be supported by such elements as picture books, slides, audio, video, CD-ROM, or other integrating elements that complement and reinforce the written message. Many product managers cannot afford to provide those support items, relying almost exclusively on print programs—which are still the most cost-effective tool for reaching large numbers of patients.

Some guidelines can help marketers develop better print materials for patients. (See "Ten Guidelines for Better Patient Programs.") The guides apply equally to the general goal of 8th-grade functional competency programs for mass markets and 5th-grade functional competency programs for selected elderly, Medicaid, and inner-city markets. (See "Literacy Myths.")

The first point is to limit the objectives of the piece to help get to the point quickly. Have no more than five main points. Trying to cram too much information into one brochure can confuse the reader.

One way to accomplish that is to break complicated information into smaller, easy-to-digest parts. Marketers should also organize the material so that it first convinces the reader he/she has a problem and then shows how to solve it. Frequently interspersing clear, simple, culturally sensitive graphics will help to repeat and reinforce the text. However, charts, graphs, and tables are unnecessary unless they convey a message in a simple and straightforward way.

It is important to avoid literal translations of patient aids in to Spanish, or any other language. The majority of Hispanics who can read 8th-grade functional competence level Spanish are equally capable of reading the message in English. A larger need in the Hispanic market in the United States is for 4th- to 5th-grade functional level patient education materials and nonreader materials.

Making the piece interactive can enhance retention of new material. Ways to increase interactivity include asking the reader to take a quiz, fill out a diary, write down personal goals, or take another action that requires using the new information.

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The guidelines are based on common sense. Yet their very simplicity can be a problem in a work environment that focuses on what's new, big programs, and advertising breakthroughs. High-tech modern marketing isn't enamored with what at first glance appears to be a low-tech simple solution-although patients clearly need such material.

### TEN GUIDELINES FOR BETTER PATIENT PROGRAMS

Here are some guidelines to help marketers develop better print materials for patients.

1. Limit the objectives of the piece.
2. Get to the point quickly.
3. Organize the material so that it first convinces the reader he/she has a problem and then show how to solve it.
4. Intersperse frequently clear, simple, culturally sensitive graphics that repeat and reinforce the copy.
5. Forget charts, graphs, and tables unless they are simple and reinforce the copy.
6. Use examples that relate the information to the patient's life.
7. Don't "dummy down" a patient educa-

tion piece using only a computerized readability test as a guide.

8. Avoid literal translations of patient aids into Spanish (or any other language.)
9. Break complicated information into smaller, easy-to-digest parts.
10. Make the piece interactive to enhance retention of new material.

### LITERACY MYTHS

**Myth: "A person is either literate or illiterate."** Literacy is not a "yes or no" measurement. There are varying degrees of competence that have historically been measured by grade levels. However, grade levels have proved to be an inaccurate measure of literacy. One of the new systems in use today assesses "functional competency levels"-that is, the ability to perform literacy tasks relevant to functioning in society. Some examples of that include reading a map, filling out a form, or locating a specific piece of information in a text.

**Myth: "Illiteracy is primarily a problem of minorities."** It is true that a larger percentage of minorities and immigrants have literacy problems, but the largest number of people with low literacy are

white native-born Americans.

**Myth: "Illiterate people are just not intelligent."** Literacy is not related to intelligence. In fact, many people with low literacy skills use ingenious ways to compensate for their lack of reading skills. Reading is a learned skill.

**Myth: "Health care professionals can easily identify low-literacy patients."** Low-literacy patients have learned to conceal their problem and often function well in society. In fact, many hold fairly complex jobs. Several quick word-recognition tests are available to help health care professionals assess literacy; for example, the Wide-Ranging Achievement Test and Rapid Estimate of Adult Literacy in Medicine test.

**Myth: "Educated, literate patients will be insulted by materials that 'talk down' to them."** With today's information overload, even highly literate patients appreciate clear, simple explanations. No one wants to work too hard to understand something, especially health-related information, which can be complex and emotionally charged. Easy-to-understand patient materials promote higher compliance, even among highly literate patients.

## Environmental Health Resources for Clinicians: Pediatric Environmental Health Specialty Units

In 1998 the Agency for Toxic Substances and Disease Registry (ATSDR) joined with the Association of Occupational and Environmental Clinics (AOEC) to develop the Pediatric Environmental Health Specialty Units (PEHSU) Program as a national resource for pediatricians, other health care providers, and communities. The key focus areas of the units are medical education and training, clinical consultation, and clinical specialty referral for children who may have exposed to hazardous substances in the environment.

The PEHSUs can serve as resources for clinicians working in migrant health. The following lists the ten established PEHSUs with their contact information.

**Pediatric Environmental Health Center, Children's Hospital, Boston, Massachusetts**  
Director: Michael Shannon, MD  
1-888-child14 (244-5314)

**Mt. Sinai-Irving J. Selikoff Center for Occupational and Environmental Medicine, New York, New York**  
Principal Investigator: Philip Landrigan, MD, MSC  
212-241-6173

**The Southeast Pediatric Environmental Health Specialty Unit, Emory University, Atlanta, Georgia**  
Principal Investigator: Howard Frumkin, MD, DrPh  
877-33PEHSU (877-337-3478)

**The Center for Children's Environmental Health, Cook County Hospital, Chicago, Illinois**  
Center Director: Daniel Hryhorczuk, MD  
312-633-5310

**Pediatric Environmental Health Specialty Unit, Harborview Medical Center, Seattle, Washington**  
Co-Directors: C. Andrew Brodtkin, MD, MPH and William O. Robertson, MD  
877-KID-CHEM (west of the Mississippi River and 206-526-2121)



## NATIONAL BOARD ELECTIONS

*What follows is a slate of candidates for MCN's national Board of Directors put forward by MCN's Nominating Committee for consideration by the full membership of the organization. All MCN members are eligible to vote by mail, e-mail or fax. We ask all members to review the following brief profiles of the candidates and to select two individual to assume the two seats on the board that are up for election. Each seat is for a two-year term. You can mail or fax the form below to MCN, P.O. Box 164285, Austin, TX 78716, fax: 512-327-0719 or e-mail your two choices to [mcnelection@migrantclinician.org](mailto:mcnelection@migrantclinician.org).*

**Eve Covas, MD** is the Medical Director of the Hope Migrant and Community Health Center in Hope, Arkansas. She has been with the organization for several years and oversaw the transition from the older and much smaller facility to the new Hope MCHC. The Hope Center is a multi-purpose facility that has housing, work, health care and education services available for migrants moving through the area. Dr. Covas works in a high flow health center that serves a large number of Texas migrants in route to points north.

**George Davis, MD** is a clinician in upstate New York. He is a long-time member of MCN. He has continued to serve migrants as he incorporated a strong palliative care component to his practice. A recent article on pain management as a part of palliative care moved Dr. Davis to call MCN to initiate a more formal interaction between his practice and MCN.

**Teresa Ivey, CPNP, ARNP** is a very active provider from the Sun Coast Community Health Center. She has been interested in the environmental work MCN has undertaken with children. She is a regular attendant to the stream forums and occasionally to the annual conference. She is very responsive when MCN has contacted her for support and assistance.

**Tina Ellis, RN** is with the Farmworker Health Services (former East Coast Migrant Health) and a long time supporter of MCN. She is very active in migrant health and attends the stream breakout for MCN at the stream forum. She relies on MCN resources and refers others to MCN regularly.

**Lynn Terral, RN** is the Clinic Manager at the Hope MCHC in Hope, Arkansas. She met with MCN staff during the cross-country road trip and oversaw the design and completion of the Hope Center. She has a clear understanding of the issues facing migrants and works in a high volume, rapid turnover site that receives Texas migrants as they are leaving the state.

**Gloria Torres, RN, MS** is with the Community Health Partnership in Illinois. Ms. Torres is early in her professional career. She has participated actively in the stream breakouts and forums over the last three years. She has been a supporter of MCN and has utilized MCN services in the past. Her work with a voucher program would bring additional expertise in this area to the board. [Gdortres.chp@juno.com](mailto:Gdortres.chp@juno.com)



## NATIONAL BOARD ELECTION BALLOT

*Indicate Your Vote by Selecting Three (3) Candidates Below, one ballot per MCN member  
(ballots that do not indicate voting member's name will not be processed).*

☐ Eve Covas, MD

☐ Tina Ellis, RN

☐ George Davis, MD

☐ Lynn Terral, RN

☐ Teresa Ivey, CPNP, ARNP

☐ Gloria Torres, RN, MS

Mail to: MCN, P.O. Box 164285, Austin, TX 78716  
Or Fax to: (512) 327-0719

## Environmental Health Resources for Clinicians

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### University of California – San Francisco (UCSF)/University of California – Irvine (UCI) Pediatric Environmental Health Specialty Unit

Co-Principal Investigators: John Balms, MD and Dean Baker, MD, MPH  
415-206-4320 (for both sites)

### Southwest Center for Pediatric Environmental Health, University of Texas Health Center, Tyler, Texas

Co-Principal Investigators: Jeffrey Levin, MD, MSPH and Larry K. Lowry, PhD  
888-901-5665

### George Washington University Medical Center, Washington, DC

Co-Principal Investigators: John Balbus, MD, MPH, Gerome Paulson, MD and Benjamin Gitterman, MD, MPH  
202-994-9914

### Midwestern Regional Pediatric Environmental Health Center Iowa City, IA

Toll free number: 866-697-7342 (866-MWR-PEHC)

### The Rocky Mountain PEHSU Denver, CO

Co-Principal Investigators: Cecile Rose, MD, MPH and Mark Anderson, MD  
*This center will be operational in June, 2001, until then, questions may be directed to the AOEC office at 202-347-4976, to Dr. Rose at 303-398-1520 or to Dr. Anderson at 303-436-5444.*



Acknowledgment: *Streamline* is funded by the Health Resources and Services Administration, Bureau of Primary Health Care, Migrant Health Program. The views and opinions expressed do not necessarily represent the official position or policy of the U.S. Department of Health and Human Services. Subscription Information and submission of articles should be directed to the Migrant Clinicians Network, P.O. Box 164285, Austin, Texas, 78716. Phone: (512) 327-2017, FAX (512) 327-0719. E-mail: [mcn@migrantclinician.org](mailto:mcn@migrantclinician.org)

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## C A L E N D A R

### 15th Annual California Conference on Childhood Injury Control

September 4-7, 2001  
San Diego, CA  
California Center for Childhood Injury  
Prevention  
619-594-3691  
[www.cccip.org](http://www.cccip.org)

### International Conference of Pesticide Exposure and Health

Sponsored by the Society for  
Occupational and  
Environmental Health  
December 17-21, 2001  
National Institutes of Health  
Bethesda, MD  
703-556-9222  
[soeh@degnon.org](mailto:soeh@degnon.org)



### Migrant Clinicians Network

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