

STRESS

ENVIRONMENTAL
EXPOSURES

MEDICAL
CONDITIONS

RESPIRATORY
DISEASE

MACHINERY
HAZARDS

TRAUMATIC
INJURY

MUSCULOSKELETAL
INJURY

WORKPLACE
HAZARDS

LONG WORK
HOURS

FALLS



National
FarmMedicine
Center®

2010 YEAR IN REVIEW

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Credits
National Farm Medicine Center 2010 Year in Review

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FROM THE DIRECTOR

As you'll see in this 2010 Year in Review, our National Farm Medicine Center staff have a lot to be excited about as we enter our 30th anniversary year.

On the adult safety and health side, we proudly welcomed the Dean Emanuel Endowed Chair and Senior Research Scientist, Matthew Keifer, M.D., M.P.H. Dr. Keifer is an internist and occupational/environmental medicine specialist who is building a dairy workers safety and health initiative to stay ahead of a changing industry. The endowment was made possible through proceeds from the annual Auction of Champions, and from generous donations by Dr. Dean Emanuel, his wife Lorrie, and others. Dr. Keifer's life experiences personify the Farm Center's focus on the wellbeing of people involved in agriculture.

We view Dr. Keifer's arrival as building upon the roots of the NPMC by addressing clinical issues germane to farm workers and their family members. Given the involvement of Dr. Steve Kirkhorn and several Marshfield Clinic physicians trained in agriculture-related maladies, the most knowledgeable cadre of agromedicine specialists is probably located right here in Marshfield, WI. Further, by editing and managing the *Journal of Agromedicine: Policy, Practice & Research*, our staff is able to disseminate knowledge to rural health practitioners worldwide.

There was also great news from our National Children's Center for Rural and Agricultural Health and Safety. Federal data released in 2010 indicated that the rate of non-fatal childhood injury on farms and ranches continued to decline, dropping nearly 60 percent since 1998. Although there is no absolute cause and effect correlation, I believe we can attribute the decline to several factors, including:

- National Children's Center initiatives to establish consensus-driven guidelines, most notably the North American Guidelines for Children's Agricultural Tasks (NAGCAT) and Creating Safe Play Areas on Farms.
- Congressional approval and funding of the National Action Plan for Childhood Agricultural Injury Prevention, facilitated by Congressman David Obey in 1996, followed by leadership from the National Institute for Occupational Safety and Health, which conducted surveillance and funded high-quality research.
- Significant levels of private donations to non-governmental organizations for community-based safety programs; and multi-media campaigns such as "Keep Kids away from Tractors."

Looking ahead, we will enhance our many initiatives addressing agricultural health and safety for adults and children. Our emphasis on underserved populations will expand via the talents and interests of new staff. The strong partnerships we have developed with leaders in agribusiness and producer organizations, safety advocates, researchers and health care providers will facilitate identification and management of issues affecting agricultural populations at the local, regional and national level. Further, with an emphasis on translating knowledge into practice, you will likely "see" us more often as we expand our communication delivery via social media to reach broad audiences.

Our gratitude to Marshfield Clinic, donors, funding agencies and people we serve cannot be overstated. Your support makes our work possible every day. And we hope to live up to your expectations as we achieve another milestone – the NPMC is 30 years old!

BARBARA LEE

Barbara Lee



Health and safety issues unique to farmers, their families and employees provided the impetus for the National Farm Medicine Center. Established in 1981, the center was a natural outgrowth of the ongoing research and clinical care at Marshfield Clinic in rural central Wisconsin.

The addition this past year of a second physician strengthens the Farm Center's connection to its clinical roots, and concentrates a wealth of Agromedicine expertise.

Leading the Farm Center's Agromedicine core for the eighth year was Medical Director **Steven Kirkhorn, M.D., M.P.H.**, who is also chair, Marshfield Clinic Occupational Health.

He was joined in August by **Matthew Keifer, M.D., M.P.H.**, an internist and occupational/environmental medicine specialist. Dr. Keifer filled the position of Dean Emanuel Endowed Chair and Senior Research Scientist.

Their roles are distinct. Dr. Kirkhorn oversees clinical services and is editor of the peer-reviewed Journal of Agromedicine. Dr. Keifer is primarily a researcher with a focus on dairy workers. Both assist in training of medical/pediatric residents, and plan to launch a monthly Agricultural Health Clinic for patients at Marshfield Clinic-Marshfield Center in 2011.

More than 1,500 institutions have full access to the NFMC's peer-reviewed Journal of Agromedicine. In addition, nearly 4,400 institutions have access to older Journal articles through full-text databases.

HIGHLIGHTS OF 2010

Journal of Agromedicine

- The National Farm Medicine Center has been the editorial home of the Journal of Agromedicine since 2005. The Journal publishes research of particular interest to health care providers and public health professionals. In 2010 it devoted theme issues to aquaculture/fishing and to the ASHCA/NIOSH conference, "Be Safe, Be Profitable, Protecting Workers in Agriculture." To view abstracts and learn more about the Journal, go to <http://www.informaworld.com/smpp/title-content=t792303961>.

- Dr. Kirkhorn is editor-in-chief. He is assisted by **Scott Heiberger**, managing editor, and **Ruth Mueller**, editorial assistant.

Dr. Kirkhorn:

- Continued working with the not-for-profit AgriSafe Network to certify health care providers throughout the Marshfield Clinic system and the state of Wisconsin in the special training required to treat and prevent agricultural illness and injury. Dr. Kirkhorn also sits on the AgriSafe Board of Directors.
- Edited the peer-reviewed Journal of Agromedicine for a sixth consecutive year.
- Continued serving as a clinical faculty member in the Office of Rural Health at the University of Wisconsin School of Medicine and Public Health.
- Led a panel presentation, "Musculoskeletal disorders in labor-intensive agricultural operations," at the ASHCA/NIOSH conference, "Be Safe, Be Profitable, Protecting Workers in Agriculture." The January 2010 conference presented current knowledge in key areas of agricultural safety and health, and recommended future directions for research.
- Served as a member of the research review committee of the National Pork Board Public Health and Producer Safety subcommittee.

- As a member of the U.S. Department of Agriculture-funded University of Minnesota Animal Food and Research Initiative Project, attended a conference in Minneapolis to discuss strategies for more effectively adopting mitigation practices and technologies for reducing gas emissions from livestock and poultry facilities.

Dr. Keifer:

- Came to the Farm Center from the Pacific Northwest Agricultural Safety and Health Center at the University of Washington, Seattle, where he was Associate Director. He was a Professor of Environmental and Occupational Health Sciences and Medicine at the University of Washington. His research interests stem from his high school experiences working as a farm hand in Iowa.
- Started work on the new Wisconsin Dairy Workers Safety and Health Initiative. Key activities will include research into the ergonomics of dairy tasks and training for language-limited workers, on-farm injury prevention consultation services, and education and training in the use of personal protective equipment. The initiative will partner the Farm Center with the University of Wisconsin-College of Agricultural and Life Sciences, the Professional Dairy Producers of Wisconsin and other organizations.
- Led a panel presentation, "Pesticides and other chemicals: minimizing worker exposures," at the ASHCA/NIOSH conference, Be Safe, Be Profitable, Protecting Workers in Agriculture.
- Led the Farm Center's collaboration with the University of Minnesota on a center grant proposal focusing on change in the agricultural industry and the health of agricultural workers.



Dean Emanuel, M.D., (left), with the first Emanuel Endowed Chair, Matthew Keifer, M.D., M.P.H.



Steven Kirkhorn, M.D., M.P.H., (far right) facilitated an AgriSafe training course for rural providers throughout Wisconsin. The course included field trips.



Speakers at the AgriSafe course included (from left) Sandi Cihlar, Mosinee dairy producer; Melissa Duffy, executive director, Farmers Health Cooperative of Wisconsin; and Byron Crouse, M.D., associate dean for Rural and Community Health, University of Wisconsin.

AGRICULTURAL SAFETY AND HEALTH COUNCIL OF AMERICA

The National Farm Medicine Center continued to cultivate agricultural businesses as partners in reducing illness and injury in ag production. Center Director **Barbara Lee, Ph.D.**, and her staff helped facilitate formation of the Agricultural Safety and Health Council of America (ASHCA) in 2007 and now serve in an administrative role. ASHCA (www.ashca.com) is incorporated as a not-for-profit 501(c)(3).

One of the important roles that ASHCA plays is to foster discussion and dissemination of proven, evidence-based safety and health interventions in the workplace. This was the goal of its January 2011 workshop, “Practical Safety and Health Risk Management in Production Agriculture,” co-located with AG CONNECT Expo at Georgia World Congress Center, Atlanta. ASHCA also sponsored a booth at AG CONNECT, a world trade show that brought together the latest in equipment, technology and ideas from all areas of agriculture production.

The Workshop covered key and emerging topics that will likely impact agricultural businesses. Producers’ experiences were featured, with speakers representing Association of Equipment Manufacturers, Agri-Services Agency, AgSafe, C-Bar Cattle Company, Driscoll’s, Grimmway Farms, Hitch Enterprises, National Pork Board, Texas Cattle Feeders Association, Washington State Farm Bureau and Workers Compensation Fund, among others. Topics included culturally relevant training, safety competitions, training with a mobile safety trailer, reducing insurance premiums, and outcomes of a statewide agricultural safety certification program.

ASHCA’s charter members include these well-known companies and organizations: Association of Equipment Manufacturers, Agri-Services Agency, American Farm Bureau Federation, CHS Foundation, CropLife America, DiscoverRe Managers, Farm Foundation, Liberty Mutual, Pork Checkoff, National Institute for Occupational Safety and Health, Workers Compensation Fund.



ASHCA Board of Directors at the January 2011 Workshop in Atlanta.



Workshop presenters from the agriculture industry shared proven, evidence-based safety and health interventions

RICA

The direction of ASHCA was the topic of a strategic planning retreat in May 2010 at American Farm Bureau Federation headquarters in Washington, DC. Attendees projected that by 2013, ASHCA will be: a conduit between safety professionals and producers; the source from which producers obtain safety information; and an organization through which members will derive “market value.” ASHCA will not, however, be a lobbying group.

ASHCA continued to broaden its reach by sending members to speak and exhibit at national and regional meetings of commodity groups, safety and health groups, and media associations.

Dr. Lee is administrative director of ASHCA. Farm Center staff assisting Dr. Lee include **Regina Fisher, M.S.**, and **Tammy Ellis** (administration), **Marlene Stueland** (finances) and **Scott Heiberger** (public relations).



CHILDHOOD AGRICULTURAL HEALTH & SAFETY

BLUEPRINT FOR KNOWLEDGE TRANSLATION

Since 1996, the National Children's Center has been a leader in childhood agricultural injury prevention efforts with funding from the National Institute for Occupational Safety and Health (NIOSH). The center is currently operating under a five-year, \$4.6 million competitive award that runs through fiscal 2013.

As part of its leadership role, the Center in 2011 will focus on the "Blueprint for Knowledge Translation," the latest in a series of guiding documents that includes the National Action Plan (1996) and Updated National Action Plan from the 2001 Summit. The Blueprint project is being co-directed by Susan Gallagher, M.P.H., of Tufts University in Boston, and **Barbara Lee, Ph.D.**, director of the National Children's Center, with assistance from deputy director **Barbara Marlunga, Ph.D.** The Blueprint is based on a comprehensive synthesis of literature suggesting themes for subsequent lines of inquiry and recommended actions leading to an updated national approach to childhood agricultural injury prevention. The Blueprint and related papers will be featured in the January 2012 issue of the Journal of Agromedicine, which is edited by the National Farm Medicine Center.

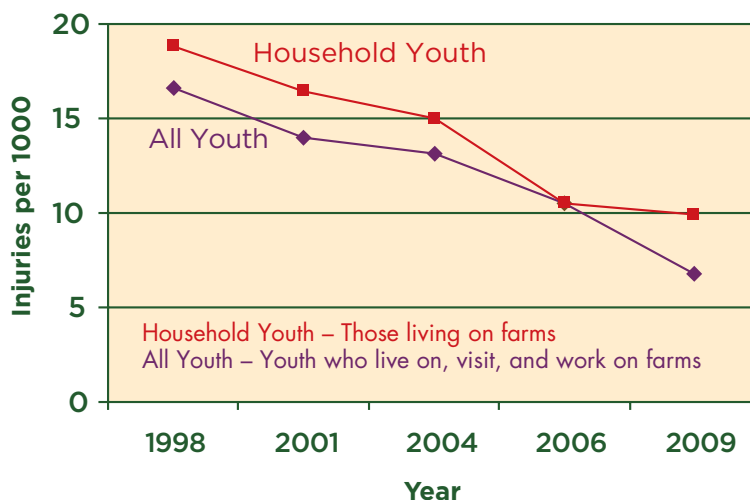
INJURY RATES CONTINUE TO DECLINE

Federal data released in 2010 indicated that the rate of non-fatal childhood injury on farms and ranches continued to decline, dropping nearly 60 percent since 1998. It was an encouraging sign that the National Children's Center has impacted research and public awareness efforts in one of the nation's most hazardous industries.

"This marked decline is a testament to the dedicated efforts of many individuals, organizations and agribusiness sponsors, along with federal agency leadership," said Dr. Lee. "Injuries and deaths affecting children on farms are no longer viewed as unavoidable accidents, but rather as predictable and preventable events."

The rate of non-fatal injuries fell 59 percent, from 16.6 to 6.8 per 1,000 farms (includes all children who live on, visit, or are hired to work on farms), during the period 1998-2009. Injury rates calculated for just youth who live on farms also showed a significant decline, from 18.8 to 9.9 per 1,000 farms, or 47.3 percent, according to a scientific survey conducted by the USDA National Agricultural Statistics Service for NIOSH.

**NIOSH Childhood Agricultural Injury Survey
YOUTH FARM INJURY ESTIMATES
(1998, 2001, 2004, 2006, 2009)**



NIOSH. 2010. Trends in childhood agricultural nonfatal injury rates, 1998 through 2009. Internal analysis of the Childhood Agricultural Injury Survey (CAIS) surveillance system. Morgantown, WV: National Institute for Occupational Safety and Health.

Total number of non-fatal injuries to youth ages 19-and-under dropped from 37,774 to 15,011, while the number of youth living on farms dropped from 1.46 million to 1.03 million.

Rate of injury is the most meaningful method for judging progress because it takes into account the reduced number of farms and the fewer numbers of children who live on, visit or are hired to work on farms.

Dr. Lee attributes the progress to factors including leadership and funding provided by NIOSH, high-quality research, and National Children's Center initiatives to establish consensus-driven guidelines.

Beneath the overall declining non-fatal injury rates, however, challenges remain, such as higher relative injury rates for all-terrain-vehicles (ATVs) and horses. An in-depth analysis of 2006 data revealed a mixture of work and non-work exposures, including ATVs and horses, that likely contribute to the higher injury rates seen in farm household children ages 10-15 relative to other age groups. For youth younger than 10, the majority of injuries were nonworking injuries.

Each year, the National Children's Center updates a childhood agricultural injury fact sheet that gives a snapshot of the population at risk and fatal and non-fatal injury statistics (<http://www.marshfieldclinic.org/NCCRAHS/>). The content of the fact sheet is especially useful to media professionals, providing important context to their stories.

Since their release in 1999, the North American Guidelines for Children's Agricultural Tasks (NAGCAT) have been disseminated and studied worldwide. Organizations using the guidelines include Ohio Farm Bureau, West Virginia Extension, Wisconsin Farm Bureau, Progressive Agriculture Foundation, Successful Farming magazine, Manitoba Labour and Saskatchewan Labour.



The Blueprint for Knowledge Translation team.



Overall, childhood non-fatal injury rates have been declining on farms and ranches.



The National Children's Center updated its "Agritourism Health and Safety Guidelines for Children" http://www.marshfieldclinic.org/nccrahs/default.aspx?page=nccrahs_ag_tourism.



ONGOING RESEARCH

Dr. Marlenga worked on a variety of studies that have policy implications.

- Youth operators of tractors typically had diminished fields of vision compared to the average adult operator, according to a recently-published study. (Chang JH, Fathallah FA, Pickett W, Miller BJ, Marlenga B. Limitations in fields of vision for simulated young farm tractor operators. *Ergonomics*. 2010 Jun;53(6):758-66.) The degree of visual limitation is greatest for objects at close distances and when objects are straight in front of the operator/tractor. This has implications in terms of risks for runovers, rollovers and collisions. Study findings may help illuminate the development of policies and guidelines in tractor-related jobs for children. The study was based on an assessment of 42 farm tractors in popular use in the United States. It is the third in a series of related studies by Dr. Marlenga and colleagues; previous studies examined strength and reach.
- Studies have demonstrated an increased prevalence of noise-induced hearing loss among youth actively involved in farm work. Since most agricultural worksites are exempt from safety and health regulations, alternative strategies to promote hearing conservation among farm youth must be identified. Work continues on a 16-year follow-up of a hearing conservation program for farm youth that took place from 1992 to 1996.
- Exposures of children and teens to farm worksite hazards and demands may be consequences of adult long working hours, says a study published in December (Marlenga B, Pahwa P, Hagel L, Dosman J, Pickett W. Impact of Long Farm Working Hours on Child Safety Practices in Agricultural Settings. *Journal of Rural Health*. 2010;366-372). The study built upon the NIOSH-National Occupational Research Agenda Long Working Hours research agenda. Farm owner-operators in Saskatchewan, Canada, reported working 60-70 hours per week during warm weather months. Specifically, long working hours of the owner-operator were associated with the assignment of hazardous jobs to teen workers. Long working hours reported by spouses of owner-

operators – typically the primary caregivers -- were associated with more frequent exposures of young children to farm worksite hazards.

CHILDREN'S CENTER EVALUATION

In the absence of an existing, universally-accepted framework for center evaluation, the National Children's Center has enlisted the services of a veteran management consultant to lead a full evaluation of the impact of its activities. Sharon Dorfman, Sc.M., CHES, Ormond Beach, Florida, met with staff in December and will be working with the center to produce a final report in 2011. Conclusions will address: 1) Impact of the National Children's Center; 2) Gaps/areas needing increased attention; 3) Implications for future directions and evaluation strategies.

MINI-GRANTS

The National Children's Center federal award includes annual funding for mini-grants that allow community organizations to conduct small-scale projects. Since 2002, nearly 40 projects have been funded in amounts up to \$20,000. Approximately half of the projects have covered vulnerable populations.

Four mini-grants were funded in FY 2010. The projects examined: 1) computer-based scenarios to educate clinicians about hazards for adolescent farmworkers; 2) reaching hired young farmworkers with a high school English-as-second-language curriculum; 3) building community resources to address health and safety concerns for children of migrant and seasonal workers; and 4) an assessment of an existing agritourism operation regarding hazards, the cost-benefit of hazard mitigation, and dissemination of assessment findings to motivate other agritourism operators to make changes.

Agritourism Health and Safety Guidelines for Children have been used by a North Carolina insurance company that is offering coverage for agritourism operators.

SAFE PLAY GOES INTERACTIVE

One of the cornerstones of the National Children's Center – Creating Safe Play Areas on Farms – was incorporated into an interactive Web guide that makes it easier for parents to obtain information on key factors to consider when designing and building a designated play area. The project, led by **Tammy Ellis**, research program associate, features an interactive Safe Play Area guide in a 3D-modeled, Flash-based “virtual” Safe Play Area. The guide highlights key elements such as fencing, ground cover, play activities, supervision, proper distancing between play structures and injury prevention.

“We want to provide busy farm parents with the knowledge they need to create a safer environment that encourages developmentally appropriate play,” Ellis said. “We appreciated the feedback from farm parents who tested our site and reminded us to keep it simple. We hope that other farm parents will find the map easy to use and take the key concepts to create their own play areas.”

To visit the interactive guide and begin creating your play area visit: www.marshfieldclinic.org/safeplay/keystocreate.

Ellis also led the update of the Center's original Agritourism resource, “Agritourism Health and Safety Guidelines for Children,” originally published in 2007. The revised version is scheduled for publication in 2011. In addition, she provided technical assistance and national, state and local outreach for the National Farm Medicine Center.

CHILDHOOD AGRICULTURAL SAFETY NETWORK

Regina Fisher, M.S., and Dr. Lee continued to facilitate the Childhood Agricultural Safety Network, www.childagsafety.org. CASN is a coalition of health and safety organizations across North America. Its purpose is to strengthen partnerships and collaborative efforts involving the agricultural community, child injury prevention organizations, and minority serving associations that will improve and expand childhood agricultural injury prevention efforts.

CASN highlights included:

National campaign warns against children on ATVs

The National Children's Center launched "I Didn't Know," a public awareness campaign to keep young children off of ATVs, during National Farm Safety and Health Week, September 19-25. The National Children's Center continues to promote the campaign through its Childhood Agricultural Safety Network (CASN).

"We know ATVs are a way of life for farmers and other land owners. But they pose a significant hazard to children," said Fisher, agricultural youth safety specialist at the National Children's Center. "This awareness campaign, which was originally developed in Canada, is designed to help parents make informed decisions."

Each year in the United States, 40,000 children under age 16 visit emergency departments because of an ATV injury. Children account for more than one-third of ATV-related injuries. In agriculture, rates of childhood ATV injuries and fatalities continue to increase, running counter to a trend that shows injury rates declining for most agriculture-related activities.

Fisher also is the project team leader for Safety Guidelines for Hired Adolescent Farm Workers (SaGHAF), www.marshfieldclinic.org/saghaf. SaGHAF is based on the success of the North American Guidelines for Children's Agricultural Tasks (NAGCAT), www.nagcat.org. SaGHAF addresses hazards for specific work tasks to be used by crew leaders and other supervisors in the field.

The Childhood Agricultural Safety Network's most recent national campaign addresses ATV safety. Despite an overall decline in the childhood agricultural non-fatal injury rate, ATV (and equestrian) injury rates continue to rise.

Media guidelines fact sheet for ag safety released

The stories we tell in the media can make life safer for farm and ranch families and workers. At the same time, while not intentional, what we write, say, and the images we show, can perpetuate and even increase unsafe farm practices.

To help minimize unsafe depictions, the Childhood Agricultural Safety Network (CASN) compiled a fact sheet of do's and don'ts as reminders for media professionals and all agricultural communicators and marketers. Communications specialist **Scott Heiberger** facilitated the project, which grew out of the National Children's Center's Journalists' Workshop (2004-2008). "Reporters at the Workshop told us they wanted to help change the tone of media coverage regarding child safety," Heiberger said, "and that it would be helpful if we could provide them with a fact sheet they could show their editors."

Examples: Do show tractors with rollover protection structures; Do use the word "incident" rather than "accident"; Do not show children in proximity to large animals unless appropriate barriers are evident. To view the fact sheet, go to <http://www.marshfieldclinic.org/proxy/MCRF-Centers-NFMC-NCCRAHS-CASN-Media-Guidelines-7-19-10.1.pdf>.

In other media matters, Heiberger represented the National Farm Medicine Center and National Children's Center at the annual Agricultural Media Summit and the National Association of Farm Broadcasting conference. He established a Facebook page for the National Farm Medicine Center, and continued to handle editing, writing and media relations activities for the Center, as well as for the Agricultural Safety and Health Council of America. He works with all members of the Center to disseminate research results and outreach materials.

Network Goal Theory project

James Westaby, Ph.D., an associate professor at Teachers College, Columbia University, is an expert on social and organizational psychology. Dr. Westaby has collaborated on various projects for more than a decade. Currently, he has been asked to apply his Network Goal Theory to the Childhood Agricultural Safety Network in order to examine how CASN is striving to achieve its desired goals.

Dr. Westaby met with Dr. Lee and began formal assessment of the CASN goal system. In the coming two years, CASN members will be asked to provide written responses to questions on an intake form which will also assess interaction patterns through the network goal system analysis. This approach is expected to yield information on trends in knowledge, attitudes, interactions, individual practices and organizational activities related to childhood agricultural injury prevention.

MIGRANT AND IMMIGRANT ISSUES

Amy K. Liebman, M.P.A., M.A., serves as the National Farm Medicine Center/National Children's Center's formal consultant on migrant and immigrant issues through a partnership with Migrant Clinicians Network (MCN). Liebman is based in Maryland and is the director of environmental and occupational health for MCN. In 2010 Liebman supported Children's Center efforts through her work on the Blueprint for Knowledge Translation and Mini Grants project. Liebman worked with a team of expert advisors to develop online resources including a rapid risk assessment tool and a continuing educational module for clinicians caring for adolescent migrant farmworkers.

Aun Que Cerca...Sano is among the patient education resources MCN continues to distribute. This colorful, educational, Spanish language comic book helps farmworker parents understand ways to protect their children from pesticide exposure. This resource was originally developed in partnership with Farm Safety for Just Kids with support from the National Children's Center. In collaboration with the National Association of State Departments of Agriculture Research Foundation, MCN plans to distribute 20,000 more comic books in 2011.

Health and safety professionals, farm families, and media can benefit from the Spanish-language resources on the National Children's Center Web site, http://www.marshfieldclinic.org/nccrahs/?page=nccrahs_resources. These resources include: strategies to prevent injury to children and adolescents, guidelines for designing and building an outdoor safe play area on a farm, and pesticide safety information.



Amy Liebman, M.P.A., M.A., serves as the NFMCC/National Children's Center's formal consultant on migrant and immigrant issues through a partnership with Migrant Clinicians Network. Here she visits Family Health/La Clinica in Wautoma, WI.



Scott Heiberger, communications specialist, at the annual National Association of Farm Broadcasting meeting, Kansas City, MO.



James Westaby, Ph.D., an associate professor at Teachers College, Columbia University, is an expert on social and organizational psychology. Dr. Westaby is applying his Network Goal Theory to the Childhood Agricultural Safety Network.

30 YEARS OF AGRICULTURAL SAFETY AND HEALTH

A CENTER WITH DEEP ROOTS

Health issues unique to farmers, their families and employees provided the impetus for establishment of the National Farm Medicine Center in 1981.

A group of physicians and other professional staff of Marshfield Clinic began discussing the establishment of an agricultural medicine center that would focus on health issues unique to farmers and their families who made up a large segment of the population in central Wisconsin, and who were also patients of Marshfield Clinic. This concept appeared to be a natural outgrowth of the ongoing research and clinical expertise that already existed at Marshfield Clinic, starting with the Clinic's acquisition of Dean Emanuel, M.D., a cardiologist who joined the staff in 1958. Dr. Emanuel had a deep interest in respiratory illnesses and farmer's lung disease, and the Foundation began a series of research projects and investigations of unique maladies occurring in dairy farmers. The rest, as they say, is history.



1982

First Auction of Champions held in Marshfield, WI. This annual event has become an important and consistent source of funding for the Farm Center's local, regional and national initiatives, raising more than \$2.2 million.

1987

Received National Institute for Occupational Safety and Health (NIOSH) contracts to develop data collection tools for farm injuries and farm chemical exposure.

1991

Wisconsin Farmers Cancer Control Program established with funding from NIOSH.

1992

Designated a NIOSH Center for Agricultural Disease and Injury Research, Education and Prevention, involving many projects and collaborations; named one of 10 Prostate, Lung, Colorectal and Ovarian Cancer Screening Centers; received funding from federal Maternal and Child Health Bureau as a Children's Safety Network-Rural Center.

1993

Environmental Health Laboratory established with research emphasis on pathogen virulence and infectious disease.



Dean Emanuel, M.D., outside the original Marshfield Clinic Research Foundation building.



Sporting "sun safe" hats at Wisconsin Farm Progress Days, 1996.



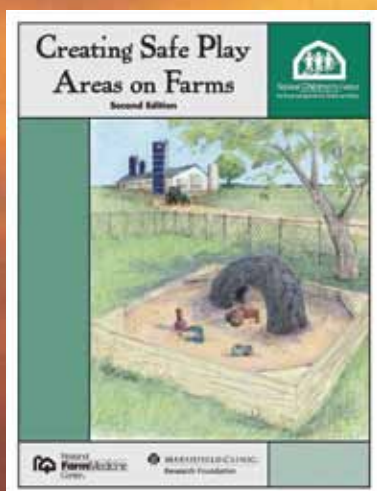
The Environmental Health Laboratory was established in 1993 and helped set the national agenda for research on disease transmission via groundwater.



Dean Stueland, M.D., M.P.H., (left), initiated farm injury rescue training programs.



The North American Guidelines for Children's Agricultural Tasks (NAGCAT) were formally introduced at the 1999 National Institute for Farm Safety meeting.



1996

National Farm Medicine Center leads national committee in development of National Action Plan for Childhood Agricultural Injury Prevention, subsequently adopted and funded by Congress.

1997

National Children's Center for Rural and Agricultural Health and Safety formally established with a five-year competitive grant from National Institute for Occupational Safety and Health (NIOSH). It remains the only NIOSH-funded agricultural center focused on children's issues.

1999

North American Guidelines for Children's Agricultural Tasks (NAGCAT) released.

2001

Led National Adolescent Farmworker Occupational Health and Safety Advisory Committee and published recommendations. Formal relationship with Migrant Clinicians Network continues to present day.

2003

Creating Safe Play Areas on Farms guidelines published.

2005

Assumed editorship of Journal of Agromedicine, peer-reviewed research publication.



2007

Facilitated establishment of industry-driven Agricultural Safety and Health Council of America, first large-scale attempt to coordinate efforts of agribusiness and researchers in reducing agriculture-related injury and illness through evidence-based strategies.

2008

"Safety Guidelines for Hired Adolescent Farm Workers (SaGHAF)," based on the North American Guidelines for Children's Agricultural Tasks, are released.



Attendees of the first AgriSafe-certified course in Wisconsin.

2009

Worked with the not-for-profit AgriSafe Network to set up the first AgriSafe-certified course in Wisconsin to offer a core curriculum in agricultural medicine and health.

2010

Dean Emanuel Endowed Chair position filled; Wisconsin Dairy Workers Safety and Health Initiative launched.



The Wisconsin Dairy Workers Safety and Health Initiative aims to address major disease and injury concerns impacting the well-being of workers.

OUTREACH/ADMINISTRATION

The National Farm Medicine Center conveys agricultural safety and health research results and evidence-based resources to injury-prevention professionals, agribusiness leaders and farm families. Its administration provides a framework to support, guide and monitor the progress of the NFMCC's initiatives.

At the administration core are **Marlene Stueland**, center administrator, and **Ruth Mueller**, administrative secretary.

Stueland provided professional support and financial management to the center director, research scientists and staff. She manages the National Farm Medicine Center's major meetings and is responsible for NFMCC fiscal management, procedures and project implementation. Stueland also manages the financial affairs of the Agricultural Safety and Health Council of America.

Mueller updated department metrics, calendars and arranged for invited speakers, internal and external meetings, and handled mailings from the center. As editorial assistant for the Journal of Agromedicine Mueller continued to coordinate correspondence amongst authors, reviewers and National Farm Medicine Center editors, while tracking papers through the review process.

SOCIAL MEDIA



If you like the National Farm Medicine Center, you'll really "like" it on Facebook. The Farm Center has established a page on the social network at www.facebook.com/farmmedicine.

To those who haven't ventured into social media, Facebook offers the opportunity to meet and keep up to date on people and organizations. It's a quick and convenient way to share event information and photos with a virtually unlimited number of contacts.

As an organization, the Farm Center encourages users to "like" its Facebook page. Those who do so will receive automatic notification every time the department posts new information. It's a great way to keep up to date on news and events impacting the Farm Center, its colleagues and its donors and friends.

The Farm Center also has a You Tube page, www.youtube.com/nationalfarmmedicine.



Marlene Stueland



Ruth Mueller

2011 WISCONSIN FARM TECHNOLOGY DAYS

The Farm Center will have a presence at 2011 Wisconsin Farm Technology Days, July 12-14, in Marathon County. The Farm Center will sponsor free skin cancer screening in conjunction with physicians from the Marshfield Clinic dermatology department. The National Children's Center will be part of the Family Farm Adventure area educating visitors about the important elements of creating an outdoor safe play area for children. Farm Technology Days will be located at Seehafer's Acres, M243 State Hwy 97, Marshfield, WI. For more information see: <http://www.marathonfarmtech.com/index.php>



ADDITIONAL OUTREACH

- Provided hand washing stations at the Central Wisconsin State Fair.
- Staffed a booth at the Marshfield Farm Show and dispensed ear plugs and sunscreen, along with education on hearing conservation and skin cancer.
- Sponsored radio public service announcements in Central Wisconsin for National FFA Week, June Dairy Month and the Central Wisconsin State Fair.
- Provided pediatric resident training on childhood agricultural injury through Marshfield Clinic's unique residency training experience.

VISITORS

The National Farm Medicine Center works with colleagues across the world to reduce agricultural injuries and fatalities. Several in-person visits in 2010 helped to facilitate ongoing projects.



Barbara Marlenga, Ph.D., deputy director of the National Children's Center (left), working on the Blueprint for Knowledge Translation project with visitor Susan Gallagher, M.P.H., Assistant Professor, Public Health and Community Medicine, Tufts University.



University of Wisconsin medical students learned about Farm Center projects from Steven Kirkhorn, M.D., M.P.H., who is a clinical faculty member in the Office of Rural Health at the UW School of Medicine and Public Health.



Four veterinarians from Uruguay visited this past spring, discussing life and agriculture in their country. Their trip was part of a Rotary Club exchange.

PRESENTATIONS & PUBLICATIONS

PRESENTATIONS

ASHCA/NIOSH Be Safe, Be Profitable, Protecting Workers in Agriculture

January 29, Dallas, TX

"Musculoskeletal disorders in labor-intensive agricultural operations,"

Steven Kirkhorn

Western Migrant Stream Forum

February 11-12, Seattle, WA

"Assessing environmental and occupational health risks in primary care," Amy Liebman

"Advocating for regulatory change: pesticide diagnostic test," Matthew Keifer and Amy Liebman

OSHA National Action Summit for Latino Worker Health and Safety

April 14, Houston, TX

"Migrant and community health centers: occupational health and safety for Latino workers," Amy Liebman

National Institute for Farm Safety 2010 Annual Conference

June 28-30, Wilmington, NC

"Determinants of agricultural injury: a novel application of population health theory," Barbara Marlenga

"Hearing conservation program for agricultural students: short-term outcomes from a cluster randomized trial," Barbara Marlenga

"Impact of long farm working hours on child safety practices in agricultural settings," Barbara Marlenga

"Implementation of the Safety Guidelines for Hired Adolescent Farm Workers," Regina Fisher

"Improving health and safety on agritourism operations," Tammy Ellis

National Summit of Clinicians for Healthcare Justice

September 24-26,

Washington DC

"From exam room to justice: the clinician's role, the challenges, and the solutions in diagnosing and protecting children, farmworkers and other vulnerable populations from chemical exposure," Matthew Keifer

Wisconsin Academy of Physician Assistants Fall Conference

October 7, Stevens Point, WI

"Common Farm Injuries," Steven Kirkhorn

Segundo Seminario Internacional Migración

October 14, Mexico, DF

"Migrants in the United States: risks beyond the border crossing," Amy Liebman

American Public Health Association Annual Conference

November 6-9, Denver, CO

"Evaluation of a hearing conservation program for farm youth: a 16-year follow-up of a randomized trial," Barbara Marlenga

"Building sustainable partnerships with migrant farmworkers in rural Washington state," Matthew Keifer

"Well being and health of agricultural workers and their families," Matthew Keifer

"Moving from evidence to collaboration and action: identifying and addressing causes of pesticide over-exposure in Washington state agricultural employees," Matthew Keifer

"Give me a test and I'll give you a diagnosis: why we should have diagnostic tests for pesticide overexposures," Matthew Keifer and Amy Liebman

"Implementation of a portable cholinesterase monitoring kit in a clinical setting: a normalization process approach," Matthew Keifer

"Saving lives by changing practices: protecting workers by integrating occupational and environmental medicine into the primary care setting," Amy Liebman

"A campus-community partnership for migrant tomato workers' health," Amy Liebman

Clinical Directors Network

December 7, Webcast

"Bringing healthcare justice to the front line: integrating environmental health into nursing practice," Amy Liebman

PUBLICATIONS

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Barbara Lee and Regina Fisher had three posters accepted for Safety 2010, the 10th World Conference on Injury Prevention and Safety Promotion, London. The titles were, "Keep Kids Away from Tractors childhood agricultural safety public awareness campaign," "Implementation of the Safety Guidelines for Hired Adolescent Farm Workers," and "Launching an Industry Led Coalition for Safety and Health of Agricultural Workers."

CHILDHOOD AGRICULTURAL SAFETY NETWORK MEMBERS



Childhood Agricultural Safety Network

AgriSafe Network

Spencer, IA
Contact: Natalie Roy

American Farm Bureau Federation

Washington, DC
Contact: Marsha Purcell

Association of Farmworker Opportunity Programs

Washington, DC
Contact: Norma Flores Lopez

Canadian Agricultural Safety Association

Winnipeg, Manitoba, Canada
Contact: Diane Wreford

Farm Safety 4 Just Kids

Urbandale, IA
Contact: Marilyn Adams/
Shari Burgus

Migrant Clinicians Network

Austin, TX
Contact: Amy Liebman

National Center for Farmworker Health

Buda, TX
Contact: Sylvia Partida

National Children's Center for Rural and Agricultural Health and Safety

Marshfield, WI
Contact: Barbara Lee

National Education Center for Agricultural Safety

Peosta, IA
Contact: Dan Neenan

New York Center for Agricultural Medicine and Health

Cooperstown, NY
Contact: Sharon Scofield

NC Agromedicine Institute

Greenville, NC
Contact: Robin Tutor

Pacific Northwest Agricultural Safety and Health Center

Seattle, WA
Contact: Helen Murphy-Robinson

Progressive Agriculture Foundation

Birmingham, AL
Contact: Susan Reynolds/Bernard Geschke

Safe Kids Canada

Toronto, Ontario, Canada
Contact: Pam Fuselli

SAFE KIDS Worldwide

Washington, DC
Contact: Kerry Chausmer

Workplace Safety & Prevention Services (formerly Farm Safety Association)

Guelph, Ontario, Canada
Contact: Dean Anderson



MAKING A GIFT

The National Farm Medicine Center is grateful for the philanthropic support received from individuals, foundations and businesses through direct donations and from the proceeds of the annual Auction of Champions. These dollars provide a significant contribution to the work of the Farm Center.

Donations support research and outreach on issues that affect farmers and rural residents, including agromedicine, occupational health, childhood agricultural injury prevention, and the new Wisconsin Dairy Workers Safety and Health Initiative, to name a few.

Contributions may be designated generally to support the work of the Farm Center, to a specific program or project, or to one of the Farm Center's endowment funds. Sponsors for the 2011 Auction of Champions are being sought, as well as individuals, foundations or businesses interested in funding a new endowment (naming opportunity available) to support the research efforts of an additional scientist in the Farm Center.

For more information on ways to support the work of the Farm Center, or to make a donation, please visit www.marshfieldclinic.org/giving or contact Marshfield Clinic Development Department:

By mail: **Marshfield Clinic Development**
 1000 North Oak Avenue
 Marshfield, WI 54449

By phone: **715-387-9249 or 800-858-5220**

By email: **giving@marshfieldclinic.org**



The 2010 Auction of Champions generated nearly \$200,000 for the Farm Center to support research and outreach on issues that affect farmers and rural residents. Drs. Steven Kirkhorn and Matthew Keifer, and Center Administrator Marlene Stueland, combined to purchase a steer raised by the Wiskerchen family.



National Farm Medicine Center staff at the 2010 Auction of Champions.



NFMF and Marshfield Clinic Research Foundation staff served at a backyard luau, one of the many great bid packages the Auction of Champions offers.

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