



M I G R A N T C L I N I C I A N S N E T W O R K

August 18, 2014

Administrator Gina McCarthy
US Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Agricultural Worker Protection Standard Revisions; Docket ID # EPA-HQ-OPP-2011-0184

Dear Administrator McCarthy:

Migrant Clinicians Network (MCN) welcomes this important opportunity to comment on the proposed revisions to the Agricultural Worker Protection Standard (WPS). MCN is a national clinical organization with over 10,000 health care provider constituents dedicated to health justice for the mobile underserved, including migrant and immigrant farmworkers and their families. MCN states unequivocally that farmworker occupational safety and health is a critical health priority. Since our inception in 1984 we have worked to eliminate health disparities among farmworkers. In particular we have focused on occupational health disparities, as the work and lifestyle that accompanies this vulnerable population places migrants at higher risk for injuries and other health problems. We have worked to address pesticide exposure on a number of levels, including our national program to improve clinical practices regarding the recognition and management of pesticide poisonings, in partnership with the US Environmental Protection Agency (EPA).

We write to support many aspects of the proposed WPS that foster worker health and safety for an estimated 2 million workers across the United States who harvest our food. Additionally, we highlight areas of the proposed regulation that need to be strengthened to better protect farmworkers from pesticide exposure. These vulnerable workers, the majority of whom are immigrants from Mexico and other Latin American countries, have limited English proficiency, low educational attainment, and poverty-level incomes. They are also the most overexposed population to pesticides.

Economic analysis of the proposed rule: In its economic analysis in support of the proposed rule, EPA acknowledges that many acute pesticide incidents are underreported and adjusts its calculation regarding costs and benefits to account for the unreported costs of acute pesticide incidents. (79 Fed. Reg. No. 53at 15449). MCN supports EPA's acknowledgement of underreported pesticide incidents. MCN provides training to clinicians to recognize the signs and symptoms of pesticide exposures and underscores the importance of reporting pesticide poisonings to the appropriate state agencies. Once trained, clinicians have repeatedly acknowledged that they likely have misdiagnosed and/or failed to report pesticide exposures. In 2014, over half the clinicians participating in MCN trainings stated they were unfamiliar with the pesticide reporting requirements in their state and did not know which agency to contact to

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report pesticide poisonings. MCN's Chief Medical Officer, Ed Zuroweste, MD, has worked in the field of migrant health for over 30 years as a frontline physician, medical director of a migrant health center and a clinical consultant assessing health center performance. He has trained and provided technical assistance to thousands of clinicians. He states, "I have yet to meet an experienced clinician who has not admitted that he or she misdiagnosed or failed to report a pesticide exposure." A survey of environmental medicine content in US medical schools found that 75 percent of schools require only about seven hours of study in environmental medicine over four years.¹ Of the clinicians MCN trained in 2014, 45 percent had less than one hour of training in environmental and occupational health. It is not surprising that clinicians are unprepared to accurately recognize and manage (including report) pesticide exposure. Clinicians are also challenged in making an accurate diagnosis and reporting exposures as there are few readily accessible confirmatory clinical tests for pesticide poisoning.² Clinicians undoubtedly resist reporting to public health agencies unless diagnosis is certain and reporting is mandated. Although 30 states have rules requiring some form of clinician reporting of pesticide exposure and illness, only 12 states have a surveillance program to act on these reports.^{3,4} Underreporting is also due to many workers not seeking medical attention for overexposures as they do not understand their rights and fear losing their jobs.

MCN agrees with EPA that the full costs of occupational illness related to pesticide exposure include not only costs in medical care and lost productivity to workers and handlers in acute incidents, but also the long-term costs from the health effects of chronic exposure to pesticides. There is an extraordinary cost to workers, farmers and our society for occupational illness and injury both in the short term and long term in terms of medical care, lost work days, lost wages, and potential workers' compensation insurance premiums for an occupational injury or illness. While the cost of illness and injury as a result of work-related pesticide exposure is challenging to determine, when occupational illness and injury are assessed across industries, the cost is more than \$250 billion a year. In fact, occupational injuries and illnesses are the second costliest medical condition behind cardiovascular disease and ahead of cancer.⁵ In addition, EPA is correct to consider the costs of illness related to exposures to farmworkers' families due to the pesticides that are brought home on workers' clothes, skin and hair.

Preparing and Equipping Clinicians to Protect Workers: MCN applauds EPA's recognition that clinicians play an important role in worker protection. We urge EPA to help clinicians to improve their recognition and management of pesticide exposure by supporting the development of clinical diagnostic tools, and providing training and technical assistance for

¹Schenk M, Popp SM, Neale AV, Demers RY. Environmental medicine content in medical school curricula. *Acad Med.* 1996 May;71(5):499-501.

²American Public Health Association. APHA Policy Statement 20108: Requiring Clinical Diagnostic Tools and Biomonitoring of Exposures to Pesticides. Washington, DC: American Public Health Association. 2010. Available at: <http://www.apha.org/advocacy/policy/policysearch/default.htm?id=1400>. Accessed August 4, 2014.

³National Institute for Occupational Health and Safety. Pesticide-related illness and injury surveillance: a how-to guide for state-based programs. DHHS (NIOSH) Publication Number 2006-102. Washington, DC: National Institute for Occupational Health and Safety; 2005. Available at: <http://www.cdc.gov/niosh/docs/2006-102/pdfs/2006-102.pdf>. Accessed August 15, 2014.

⁴Centers for Disease Control and Prevention. Pesticide Injury Surveillance: Sentinel Event Notification System for Occupational Risk (SENSOR) Program. July 2014. Available at <http://www.cdc.gov/niosh/topics/pesticides/overview.html>. Accessed on August 16, 2014.

⁵Leigh JP. Economic burden of occupational injury and illness in the United States. *Milbank Q.* 2011; 89(4):728-72.

clinicians. This need is underscored in recommendations outlined in the 2011 Agency for Toxic Substances and Disease Registry's National Conversation on Public Health and Chemical Exposures Action Agenda. It states: "Clinicians need a set of skills and tools for 1) diagnosing, treating, and intervening to prevent chemical exposures, 2) providing information about chemical exposures to their patients and communities, and 3) participating in surveillance for chemical exposures and health effects."⁶ The National Strategies for Health Care Providers: Pesticide Initiative, established in 1998 by EPA and the US Departments of Health and Human Service, Agriculture, and Labor, also aims to improve the training of health care providers in the recognition, diagnosis, treatment, and prevention of pesticide poisonings among those who work with pesticides.⁷

EPA relies on data from surveillance systems such as the SENSOR Pesticide Program in order to make decisions about pesticides once they are on the market. These systems rely in large part on reports submitted by healthcare providers. A well trained clinician, who receives education to recognize the signs and symptoms of pesticide exposures as well as information about where to report, is the first step to improve reporting. As important are clinical diagnostic tools to confirm a clinical impression and to help provide the objective confirmation of the work relatedness of an illness. Confirmatory diagnostic tests are essential to providing the information clinicians need to treat overexposed workers and handlers and to ultimately provide EPA with the data necessary to understand the health effects of registered pesticides. The Agency for Toxic Substances and Disease Registry, National Conversation on Public Health and Chemical Exposures Action Agenda also calls for clinical diagnostic tools and states: "To more fully prepare healthcare providers to address chemical exposures, validated clinical diagnostic tools similar to blood lead testing are needed."⁸ The American Public Health Association echoes this recommendation as well.⁹ MCN calls for clinical diagnostic tools to monitor pesticide exposure. Providing clinicians with the clinical diagnostic tools they need to make the most accurate diagnosis possible should be a central part of worker protection and it is glaringly absent in the proposed rule.

Hierarchy of Controls for Occupational Health and Safety: MCN urges EPA to apply the standard and universally accepted public health best practice for control of worker exposure to chemicals – the industrial hygiene “hierarchy of controls.” Under the hierarchy of controls, risk reduction is based on the following preferred order of controls: elimination, substitution with less hazardous materials, engineering controls (such as closed systems), warnings, administrative control, and personal protective equipment.¹⁰ MCN is concerned that the

⁶Agency for Toxic Substances and Disease Registry, National Conversation on Public Health and Chemical Exposures Action Agenda. 2011. Available at: http://www.atsdr.cdc.gov/nationalconversation/action_agenda.html. Accessed August 5, 2014.

⁷ US Environmental Protection Agency, National Strategies for Health Care Providers: Pesticide Initiative. Available from <http://www.epa.gov/oppfead1/safety/healthcare/healthcare.htm#Cooperative>. Accessed August 18, 2014.

⁸ Agency for Toxic Substances and Disease Registry, National Conversation on Public Health and Chemical Exposures Action Agenda. 2011. Available at: http://www.atsdr.cdc.gov/nationalconversation/action_agenda.html. Accessed August 5, 2014.

⁹ American Public Health Association. APHA Policy Statement 20108: Requiring Clinical Diagnostic Tools and Biomonitoring of Exposures to Pesticides. Washington, DC: American Public Health Association; 2010. Available at: <http://www.apha.org/advocacy/policy/policysearch/default.htm?id=1400>. Accessed August 4, 2014.

¹⁰ American National Standards Institute – American Industrial Hygiene Association Z10-2005 Occupational Health and Safety Management Systems. 2005; as described in Manuele, F. ANSI/AIHA Z10-2005: The new benchmark for safety management

revised WPS largely relies on the least protective measures for workers – PPE and administrative controls such as training and record keeping.

Annual Training and Record Keeping: MCN supports annual pesticide safety training for farmworkers and pesticide handlers as well as a record-keeping system to document when these trainings take place. An informed workforce is an important first step in worker protection. Annual training will reinforce important pesticide safety practices and information to help workers better protect themselves and their families from pesticide overexposure. Studies indicate that workers who have been trained in the preceding year retain more information from new training than those whose previous training is more than two years old; that workers maintain information but begin to show some drop-off at five months; and that knowledge gains are correlated with improved self-reported use of PPE.^{11,12,13} Pedagogically, it is unreasonable to expect a workforce characterized by limited formal education and low levels of literacy to retain training content beyond one year. Training requirements to protect agricultural workers and handlers should be comparable to those required by OSHA regulations that require employers to provide annual training to protect employees from chemical hazards in the workplace.

Training Content: MCN supports expanding the content of the required training for workers and handlers, underscoring the importance of including the proposed topics of worker rights, emergency assistance and ways to minimize paraoccupational exposures or pesticide “take home” exposures. Additionally, we call for EPA to emphasize training regarding the possible reproductive health effects of pesticide exposure. We also recommend that EPA be mindful of the needs of workers and some handlers due to low literacy and limited English language when revising the training standards. The training should be provided in meaningful interactive formats that include training in a language that the individual understands.

Training Grace Period: MCN supports the elimination of a grace period for worker training. Any training grace period severely undermines the intent of the WPS. An untrained worker is more vulnerable to pesticide overexposure and should not be put at risk. OSHA standards require employers in almost all industries to notify their workers of the hazards that may be encountered in the workplace before the work begins. Agriculture should be held to the same standard when it comes to exposure to hazardous chemicals.

systems. February 2006. Available from: <http://www.asse.org/publications/standards/z10/docs/25-33Feb2006.pdf>. Accessed August 5, 2014.

¹¹ Anger WK, Patterson L, Fuchs M, Will LL, Rohlman DS. Learning and recall of Worker Protection Standard (WPS) training in vineyard workers. *J Agromedicine*. 2009;14(3):336-44. doi: 10.1080/10599240903042057.

¹² LePrevost CE, Storm JF, Asuaje CR, Arellano C, Cope WG. Assessing the effectiveness of the Pesticides and Farmworker Health Toolkit: A curriculum for enhancing farmworkers' understanding of pesticide safety concepts. *J Agromedicine*. 2014;19(2):96-102. doi: 10.1080/1059924X.2014.886538.

¹³ Levesque DL, Arif AA, Shen J. Effectiveness of pesticide safety training and knowledge about pesticide exposure among Hispanic farmworkers. *J Occup Environ Med*. 2012 Dec;54(12):1550-6. doi: 10.1097/JOM.0b013e3182677d96.

Minimum Age – MCN supports the establishment of a minimum age of 18 rather than the proposed minimum age limit of 16 for pesticide handlers and early-entry workers. Children younger than 18 are still developing both physically and mentally and high levels of exposure to pesticides could have life-long health effects. Furthermore, most minors do not have the maturity to follow all label instructions or take the necessary precautions to ensure their safety and the safety of other workers.^{14,15} Children working in other industries are prohibited from engaging in high hazard tasks.¹⁶ Children employed in agriculture should be afforded the same protections as children working in other hazardous industries.

Hazard Communication – MCN does not support the EPA’s proposal to eliminate the current requirement for a central posting location for pesticide application information. We do support EPA’s clarification that this information, in addition to the Safety Data Sheets (SDSs) and labeling for pesticide applications, must be made available to workers’ representatives such as clinicians, attorneys and union representatives. Particularly in the case of workers injured by pesticides, it is critical for workers’ representatives to be able to obtain accurate, timely information about the pesticides to which workers may have been exposed. However, specific information about the pesticides applied and the hazards they pose must be made available to workers universally, in advance of pesticide applications. Such information should be available in nonemergency situations and it should not require any type of request from the worker or worker representative. Workers may not understand that they have the right to request such information. If workers do understand, many will be reluctant (for fear of job loss) or unable due to language barriers to ask their employer for the information.

Additionally, we recommend requiring availability of SDSs in Spanish as well as English both in a central location and electronically using a smart phone scan code. SDSs in Spanish and other written languages should now be readily available, because format and basic content of SDSs has been harmonized internationally to comply with Globally Harmonized System requirements. Labels should also be made available electronically, as well as at a central location and provided in Spanish and other languages when available.

Monitoring Handler Exposure to Cholinesterase Inhibiting Pesticides: We support medical monitoring of pesticide handlers who mix, load or apply Toxicity Category I or II organophosphates or N-methyl carbamates. Monitoring programs have been successfully implemented for 40 years in California and over 10 years in Washington State, substantially helping to prevent overexposure of handlers. These biomonitoring programs have been critical

¹⁴Salazar MK, Napolitano M, Scherer JA, and McCauley LA. Hispanic adolescent farmworkers’ perceptions associated with pesticide exposure. *West J Nurse Res.* 2004;26(2):146-166.

¹⁵ Steinberg L. Cognitive and affective development in adolescence. *Trends in Cognitive Science.* 2005;9(2):69-74.

¹⁶US Department of Labor. Labor Regulations, Orders and Statements of Interpretation. §29 CFR 570. Available from

<http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&sid=48d6ee3b99d3b3a97b1bf189e1757786&rgn=div5&view=text&node=29:3.1.1.1.31&idno=29> Accessed August 4, 2014.

in reducing overexposure by removing workers from ongoing exposure and identifying flaws in the system of worker protection.^{17,18}

We strongly disagree with EPA's decision not to implement such a program nationwide based on its determination that these programs are "reactive, catching incidents after they occur rather than working to stop them from happening." This analysis contradicts some of the very basic tenets of public health. Medical monitoring programs are essential preventive measures, which successfully stop handlers from being overexposed by identifying subclinical evidence of exposure, prompting review of primary prevention practices. Medical monitoring is common in other industries and OSHA has promulgated over 25 specific standards for medical screening of workers exposed to hazardous substances.¹⁹ Pesticide handlers deserve the same protections that are afforded to workers in other industries. MCN recommends that EPA expeditiously explore a national requirement for cholinesterase monitoring for pesticide handlers mixing, loading or applying Category I or II organophosphates or N-methyl carbamates, and that the Washington State requirements provide a model.

Emergency Assistance: MCN supports the EPA's proposal to clarify when employers must make transportation to a medical facility available to workers and handlers. However, transportation should be made available within 3–4 minutes if the injury is life-threatening or 15 minutes if it is not life-threatening upon learning of an exposure, and not within 30 minutes. We support the proposal to require employers to provide to the worker, handler or the treating medical personnel the relevant SDS and pesticide label, or all of the pertinent information in an alternate form (as opposed to waiting for it to be requested). In certain circumstances, employers should be required to document the time and length of the exposure and report it to the worker and clinician.

Respirator Training and Fitting: We support requiring employers of pesticide handlers to comply with OSHA-equivalent training on respirator use, fit-testing of respirators, and medical evaluation requirements whenever a respirator is required by the labeling. However, the rule should also include the OSHA requirement for each employer to adopt a worksite-specific respiratory protection program to address in detail how respirators are properly selected, cleaned, stored, repaired, and replaced. Furthermore, we disagree with EPA's decision to exclude dust or mist filtering masks, since a majority of pesticides with label requirements for handlers to wear respirators only require dust/mist filtering respirators. Medical evaluation, fit-testing and training should be required for all types of dust/mist filtering respirators.

Decontamination Supplies: We support the EPA recommendation to require employers to provide decontamination supplies that include one gallon of water per worker for routine washing and emergency eye flushing, soap, and single use towels and at least three gallons of

¹⁷ Ames RG, Brown SK, Mengle DC, et al. Cholinesterase activity depression among California agricultural pesticide applicators. *Am J Ind Med.* 1989;15(2):143–150.

¹⁸ Hofmann JN, Keifer MC, De Roos AJ, et al. Occupational determinants of serum cholinesterase inhibition among organophosphate-exposed agricultural pesticide handlers in Washington state. *Occup Environ Med.* 2010;67:375–386.

¹⁹ Occupational Safety and Health Administration. General Industry. Medical Screening and Surveillance. §29 CFR 1910. Available from <https://www.osha.gov/SLTC/medicalsurveillance/> Accessed August 5, 2014.

water per worker for decontamination for workers performing tasks in an entry-restricted area. We also recommend that EPA require further decontamination supplies including shower facilities onsite. We recommend following the American National Standards Institute standard (Z358.1 -2009) for emergency eyewash and shower equipment and require an emergency shower that can deliver water at 20 gallons per minute for 15 minutes.²⁰

Contaminated Personal Protective Equipment: MCN supports the EPA proposal to require employers to render contaminated PPE unusable before properly disposing of PPE that cannot be decontaminated according to the manufacturer's instructions. Such measures will prevent adverse health effects resulting from the wearing of contaminated garments.

Closed Systems for Mixing and Loading: MCN supports the EPA proposal to clarify the criteria for closed systems by adopting the California standards for system design. However, EPA should go further and adopt, at a minimum, the California standards requiring the use of closed systems for highly-toxic categories of pesticides. As noted above, under the industrial hygiene hierarchy of controls, engineering controls are preferred over PPE. It therefore is appropriate for EPA to require the engineering control of a closed system rather than PPE as the primary protection for pesticide handlers. Closed systems are already used extensively in California, and for some pesticides and certain types of uses across the country. The proper use of closed transfer systems for mixing and loading pesticides reduces the potential for human exposure from spills, splashes and blowing, and this type of engineering control – rather than PPE – should be the first line of defense against pesticide exposure.

Drift Protections: MCN supports the EPA proposal to require handlers to cease application if someone other than a trained and properly equipped handler enters treated or surrounding areas. We also support the establishment of entry-restricted areas adjacent to the treated areas in farms and forests. But, as proposed, these protections apply only to fields on the farm that was sprayed. This safeguard should extend to workers in harm's way who work at a neighboring establishment. Though modest in scope, the proposed entry-restricted areas are a step in the right direction to protect workers and others in the immediate vicinity of pesticide applications.

Early Entry Restrictions: MCN believes that early reentry for fieldwork should only be allowed in true agricultural emergencies. Worker protection during early reentry is largely dependent upon proper use of PPE. Many of the tasks involved with early reentry, such as moving irrigation pipes and performing hand labor tasks, may be cumbersome with required PPE. Given the nature of the tasks as well as the potential for escalating heat stress with PPE, there is potential for improper use or no use of PPE. The proposed improvements in training and age restriction cannot adequately mitigate these risks. In addition, we oppose the relaxing of the early reentry restriction for irrigators, allowing early reentry even if the need for irrigation could

²⁰ American National Standards Institute . American National Standard Z358.1-2009 for Emergency Eyewashes and Shower Equipment. Available at: <http://webstore.ansi.org/RecordDetail.aspx?sku=ANSI%2fISEA+Z358.1-2009>. Accessed August 6, 2015. Described in Bradley Corporation. A Guide to the ANSI Z358.1-2009 Standard for Emergency Eyewashes and Shower Equipment. 2012. Available from <https://www.bradleycorp.com/download/2081/4002.pdf>. Accessed August 6, 2014.

have been foreseen before the pesticide application. Irrigators are at high risk of pesticide poisoning because they tend to work long hours. They also often work alone with no coworker to assist in calling for help in case of pesticide or heat illness.


Notification about Restricted Entry Intervals (REIs): MCN recommends that EPA continue to require on the sign the wording “Keep Out” and not change it to “Entry Restricted.” While this semantic change may be technically more accurate, it is far more difficult for most people to understand. According to a standard readability program, “Entry Restricted” tests at a Grade 13 reading level. By contrast, “Keep Out” tests at Grade 0, meaning that it should be easily understood by most six-year-olds.²¹

In conclusion, MCN applauds EPA for proposing to strengthen the WPS and for attempting to bring the WPS more closely into line with protections offered to workers in other industries. EPA can better protect the health and well-being of farmworkers MCN strongly urges EPA to act affirmatively on our recommendations to further strengthen the WPS.

Sincerely,



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²¹ Tested using The Readability Test Tool on August 16, 2014 available from <http://read-able.com/>.