Public Interest Comment\(^1\) on

The Environmental Protection Agency’s Proposed Rule:

Agricultural Worker Protection Standard Revisions: Pesticides

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The George Washington University Regulatory Studies Center

Retrospective Review Comment Project

The George Washington University Regulatory Studies Center strives to improve regulatory policy through research, education, and outreach. As part of its mission, the Center conducts careful and independent analyses to assess rulemaking proposals from the perspective of the public interest. This comment on the Environmental Protection Agency’s (“EPA” or “Agency”) proposed rule updating and revising existing worker protection standards for pesticides does not represent the views of any particular affected party or special interest, but is designed to evaluate whether EPA’s proposal incorporates plans for retrospective review, pursuant to Executive Order 13563.

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\(^1\) This comment reflects the views of the author, and does not represent an official position of the GW Regulatory Studies Center or the George Washington University. The Center’s policy on research integrity is available at [http://research.columbian.gwu.edu/regulatorystudies/research/integrity](http://research.columbian.gwu.edu/regulatorystudies/research/integrity).

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Introduction

The proposed rule would revise existing worker protection regulations for pesticide use. The proposal outlines multiple revisions to the Worker Protection Standard for Agricultural Pesticides (WPS) designed to strengthen safeguards for agricultural workers and handlers. According to EPA:

This proposal revises the existing WPS in several areas: Training, notification, hazard communication, recordkeeping, minimum age, and personal protective equipment.3

EPA expects the revisions, once final, to prevent unreasonable adverse effects from exposure to pesticides among agricultural workers and pesticide handlers; vulnerable groups, such as minority and low-income populations, child farmworkers, and farmworker families; and the general public.4

The main concern of the proposed rule appears to be to address an information asymmetry – workers who do not know the potential harms of working with pesticides are especially vulnerable to negative outcomes.5 As EPA states, many agricultural workers belong to marginalized groups in society, such as minorities and low-income populations. The National Agricultural Worker Survey (NAWS) indicates that the median family income of agricultural workers ranges from $12,500 – $14,999, and many of these laborers do not speak English and are not literate in their native language.6 Due to communication barriers, lack of bargaining power, and other issues, these particular groups often suffer negative health effects from overexposure to pesticides; EPA seeks to reduce such risk through the proposed rule.

As a part of its ongoing Retrospective Review Comment Project, the Regulatory Studies Center examines significant proposed regulations to assess whether agencies propose retrospective review as a part of their regulations, and submits comments to provide suggestions on how best to incorporate plans for retrospective review into their proposals. To facilitate meaningful retrospective review after the promulgation of a final rule, multiple government guidelines instruct agencies to incorporate retrospective review plans into their proposals during the rulemaking process. In this rule, EPA expects to mitigate reported acute WPS pesticide incidents but does not demonstrate how it will evaluate future outcomes, re-examine its break-even analysis, or consider the proposed rule’s impact on other measures.

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3 79 FR 15445
4 79 FR 15448
5 79 FR 15446
6 79 FR 15449

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Incorporating Retrospective Review into NPRMs

Through a series of Executive Orders, President Obama has encouraged federal regulatory agencies to review existing regulations “that may be outmoded, ineffective, insufficient, or excessively burdensome, and to modify, streamline, expand, or repeal them in accordance with what has been learned.” On January 18, 2011, President Obama signed Executive Order 13563, Improving Regulation and Regulatory Review, which reaffirmed the regulatory principles and structures outlined in EO 12866. In addition to the regulatory philosophy laid out in EO 12866, EO 13563 instructs agencies to

consider how best to promote retrospective analysis of rules that may be outmoded, ineffective, insufficient, or excessively burdensome, and to modify, streamline, expand, or repeal them in accordance with what has been learned. Such retrospective analyses, including supporting data, should be released online whenever possible.7

This ex-post review makes it possible for the government and the public to measure whether a particular rule has had its intended effect. In his implementing memo on retrospective review, former Administrator of the Office of Information and Regulatory Affairs, Cass Sunstein, stated the importance of designing regulations to facilitate their evaluation:

With its emphasis on “periodic review of existing significant regulations,” Executive Order 13563 recognizes the importance of maintaining a consistent culture of retrospective review and analysis throughout the executive branch. To promote that culture, future regulations should be designed and written in ways that facilitate evaluation of their consequences and thus promote retrospective analyses and measurement of “actual results.” To the extent permitted by law, agencies should therefore give careful consideration to how best to promote empirical testing of the effects of rules both in advance and retrospectively.8

[Emphasis added]

This emphasis is repeated in Sunstein’s June 14, 2011 memo, “Final Plans for Retrospective Analysis of Existing Rules.” In its 2013 Report to Congress on the Benefits and Costs of Federal Regulations, the Office of Management and Budget (OMB) states that such retrospective

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analysis can serve as an important corrective mechanism to the flaws of ex ante analyses. According to that report, the result of systematic retrospective review of regulations:

should be a greatly improved understanding of the accuracy of prospective analyses, as well as corrections to rules as a result of ex post evaluations. A large priority is the development of methods (perhaps including not merely before-and-after accounts but also randomized trials, to the extent feasible and consistent with law) to obtain a clear sense of the effects of rules. In addition, and importantly, rules should be written and designed, in advance, so as to facilitate retrospective analysis of their effects.  

EPA suggests that the proposal is partly a result of the retrospective review requirements in Executive Order 13563, stating “the proposed changes are in response to extensive stakeholder review of the regulation and its implementation since 1992, and reflect current research on how to mitigate occupational pesticide exposure to agricultural workers and pesticide handlers.” The preamble goes on to say:

In the almost two decades since the 1992 WPS was implemented, EPA has learned from the Pesticide Program Dialogue Committee, National Assessment of the Pesticide Worker Safety Program process, meetings with state regulators, and other stakeholder interaction, that the 1992 rule needs improvements. EPA believes that the data available to the Agency supports this conclusion... The proposal also aligns with the President's January 18, 2011 Executive Order 13563 (76 FR 3821), requesting that agencies review existing regulations to improve the efficacy of their protection, to balance costs and benefits, and to maximize their efficiency.”

Despite this acknowledgement of these retrospective review requirements, EPA does not discuss how it will measure the effectiveness of the proposed revisions if they are implemented. In line with the requirements of EO 13563, OMB’s implementation memo, and OMB’s 2013 Report to Congress, EPA should incorporate specific plans for retrospective review and ex post evaluation into the text of its final rule.

9 2013 Report to Congress on the Benefits and Costs of Federal Regulations and Unfunded Mandates on State, Local, and Tribal Entities (May 2014)
10 79 FR 15444
11 79 FR 15450
Retrospective Review Requirements

To evaluate whether EPA’s proposal was “designed and written in ways that facilitate evaluation of [its] consequences,” we measure it against five criteria:

- Did EPA clearly identify the problem that its proposed rule is intended to solve?
- Did EPA provide clear, measurable metrics that reviewers can use to evaluate whether the regulation achieves its policy goals?
- Did EPA commit to collecting information to assess whether its measurable metrics are being reached?
- Did EPA provide a clear timeframe for the accomplishment of its stated metrics and the collection of information to support its findings?
- Did EPA write its proposal to allow measurement of both outputs and outcomes to enable review of whether the standards directly result in the outcomes that the EPA intends?

Identifying the Problem

The first of the “Principles of Regulation” outlined by President Clinton in EO 12866 makes it clear that, as a first step, agencies must be able to identify the problem that justifies government action through regulation:

Each agency shall identify the problem that it intends to address (including, where applicable, the failures of private markets or public institutions that warrant new agency action) as well as assess the significance of that problem.

This step is crucial to the formulation of any policy. Without knowledge of the problem that the agency is trying to address, the public cannot assess whether the policy or regulation at hand has had the intended effect, which is key in retrospectively evaluating regulation. Pursuant to EOs 12866 and 13563, in its proposed rule EPA lists two problems that necessitate its standards:

1. There is asymmetric information (one party to a transaction has more and better information than the other) and/or high transactions costs (costs of gathering information and affecting exchanges of goods and services). EPA states that many agricultural workers and pesticide handlers belong to vulnerable groups—such as minority and low-income populations—and these individuals may not have access to information on the potential short-term and long-term harm of working with pesticides without proper protection.

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12 United States Environmental Protection Agency. ECONOMIC ANALYSIS OF THE PROPOSED AGRICULTURAL WORKER PROTECTION STANDARD REVISIONS. Pages 1-2.
Negative externalities occur when workers develop health problems from working with pesticide; society on the whole then faces ancillary consequences of the poor labor conditions. Some of these issues include but are not limited to: individuals developing long-term illnesses, student-workers missing more days of school due to illness, family members being affected by pesticides lingering on the clothes of workers, and simply a lower standard of living for society in general.

As EPA explains in its proposed rule, these market failures could potentially be addressed by revising and updating worker protection standards. It appears more likely that the proposed rule would have positive effects on information asymmetry, rather than externalities. The underlying assumption in EPA’s revised WPS standards is that more knowledge will change worker behavior (which hopefully can remedy some negative externalities), so the agency goes to great length attempting to accommodate laborers of all backgrounds. However, the many distinct ethnic backgrounds, languages, and cultures of workers will likely prove to be a major hurdle in accomplishing such ends. Not all restricted entry interval (REI) signs can read, “No entre, Nie wchodzić, Không nhập, 不要输入, Pa antre nan, and Do not enter.” Moreover, not all workers are literate in their native tongue. As it develops the final rule and plans for retrospective review, EPA should consider factors that may support or limit the requirements’ effectiveness at improving knowledge.

It is implied throughout the proposed rule that provision of additional information will change behavior and produce better outcomes. Assuming the proposed rule will provide information usable to the target population (despite concerns raised in the previous paragraph), another mediating factor is the extent to which more knowledge actually changes behavior. EPA contends that correcting the information asymmetry can reduce exposure and negative externalities such as workers who transport pesticides home and get their families sick. In developing a plan for retrospective review, EPA should evaluate the extent to which the assumption that more knowledge will lead to altered behavior holds true. EPA should take into account mediating factors that may undermine the presumed causal link between information and altered behavior.

According to NAWS, 43% of respondents were classified as “migrant,” meaning they traveled at least 75 miles in one year to find work in agriculture. Between 77% and 85% of workers lack health insurance and only 20% had been to a health care facility within two years of the survey. When preparing training for agricultural workers, EPA should focus on teaching the most cost-efficient ways for the laborers to protect themselves and their families.

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13 Ibid. Pages 4-6.
14 79 FR 15452
There may be some cultural differences, including related to risk preferences and behaviors that EPA might find worth considering when preparing training materials and evaluating the linkages between the proposed rule and the expected reduced effects of pesticides.

None of these points necessarily argue against EPA’s construct of the proposal, but rather are raised to suggest areas that EPA may want to measure as it develops plans for retrospective evaluation of the effectiveness of the rule. In particular, the Agency may want to consider:

- How will EPA measure workers’ comprehension of newly mandated signs, training materials, and warnings?
- How will EPA assess the effectiveness of a national registry on annual safety training?
- Will EPA consider the rule’s potential disparate impact on particular cultures or undocumented workers?
- How will EPA measure the effectiveness of early-entry warnings and their potential impact on reduced health effects?
- How will EPA consider the rule’s impact on emergency response to affected workers?
- How will EPA’s retrospective review differ for small farms that are exempt from some of the regulations in the proposed rule?
- How will EPA clarify whether or not it was the proposed rule that led to greater information spread amongst workers, changed worker behavior, reduced pesticide exposure, or reduced effects on health and safety?
- After considering linkages between the rule and outcomes, how will EPA continue to analyze qualitative benefits - from both the rule and exogenous sources, such as the Internet?

**Measurement Criteria**

In order to measure the success of this rule following implementation, it is necessary for EPA to define what constitutes a “success.” Any stated metrics of success should be linked to the problems identified, to show that the WPS revisions that EPA is proposing are effectively reducing asymmetric information causing unreasonable exposure to agricultural pesticides and the negative externalities that result from this exposure.

According to the preamble, “EPA believes that the proposed changes offer targeted improvements that would reduce risk through protective requirements and improve operational efficiencies.” Thus, the ultimate outcome is reduced health risk. EPA also identifies what may be considered intermediate outputs, which it expects will lead to this outcome.

Specifically, EPA expects the proposed changes to:

- Improve effectiveness of worker and handler training,
• Improve protections to workers during restricted-entry intervals (REIs),
• Improve protections for workers during and after pesticide applications,
• Expand the information provided to workers, thus improving hazard communication protections,
• Expand the content of pesticide safety information displayed, thus improving the display’s effectiveness,
• Improve the protections for crop advisor employees,
• Increase the amounts of decontamination water available, thus improving the effectiveness of the decontamination process,
• Improve the emergency response when workers experience pesticide exposures,
• Improve the organization of the WPS, thus improving employers’ ability to understand and comply with the provisions,
• Clarify the coverage of the WPS to those employed and receiving a salary or wage to ensure protection for occupational pesticide workers,
• Protect children by establishing a minimum age for handlers and for workers who enter a treated area during an REI while maintaining an exemption to the minimum age requirement for children working on the establishment of an immediately family member, and
• Improve flexibility for small farmers and members of their immediate family by expanding the definition of immediate family members to be more inclusive and retaining the exemptions from almost all WPS requirements for owners and their immediate family members.\textsuperscript{15}

The agency has not clearly defined what would be a “successful implementation” of the proposed rule, but the proposed changes suggest desired qualitative outcomes. EPA conducted a “break-even” analysis to determine the health gains that would have to accrue to cover the cost of the rule’s implementation; “break-even” refers to the point where total benefits equal total costs. Break-even analyses have generally been used when monetized estimates of all benefits could not be estimated. Costs are much easier to quantify and allow for a “net cost” backwards estimate from reduced pesticide exposure.\textsuperscript{16} EPA’s research suggests that reducing about 53 pesticide-related chronic illnesses per year across the WPS population of 2.3 million workers would ensure benefits outweigh the costs of the WPS.\textsuperscript{17}

\textsuperscript{15} 79 FR 15446
\textsuperscript{16} United States Environmental Protection Agency. ECONOMIC ANALYSIS OF THE PROPOSED AGRICULTURAL WORKER PROTECTION STANDARD REVISIONS. Page 207.
\textsuperscript{17} United States Environmental Protection Agency. ECONOMIC ANALYSIS OF THE PROPOSED AGRICULTURAL WORKER PROTECTION STANDARD REVISIONS. Pages 215-219.
The current monetized costs are estimated to be between $62-73 million per year and the monetized benefits are $5-14 million.\textsuperscript{18} Thus, the monetized costs outweigh monetized benefits by about $50 million per year.\textsuperscript{19} However, EPA believes that additional qualitative benefits—in addition to monetized benefits—will outweigh total costs. EPA does not suggest how it will examine this information after implementation, nor does it offer a concrete timeline for conducting an impact review. In addition, even if the aforementioned break-even point is reached, as discussed above, clearly laying out the causal linkages between the rule’s provisions and rates of sickness among workers and their families will be key to measuring the effectiveness of this rule, if promulgated.

EPA legitimately expresses concern that the estimated benefits of the proposed rule are biased downwards, noting that “studies estimate that underreporting of pesticide exposure…range from 20 to 90 percent” and cites a “reasonable assumption” that only 25% of acute incidents are reported.\textsuperscript{20} In order to evaluate the effects of the rule (and improve the analysis of future regulations), EPA should commit to gathering better information as part of its final rule.

The agency expects to mitigate 56% of reported acute WPS pesticide incidents.\textsuperscript{21} While it will be difficult to calculate counterfactuals, EPA should conduct longitudinal studies to see if reported rates decrease over time appropriately.

**Information Collection**

In order for retrospective review to be effective, EPA should identify how it will gather information to assess whether its stated metrics are being accomplished. Although EPA does not disclose in its proposal how it might collect the relevant information to evaluate its rule, the methodologies used by EPA to estimate benefits of the revisions to the WPS could be used for calculation later on. To evaluate whether its estimate that 56% of reported acute WPS pesticide incidents will be mitigated, it will need to more clearly lay out the causal connections between the rule and these incidents, and develop reliable measures of WPS health effects. To gather such information, EPA could follow the NAWS protocol or simply use data from future NAWS collections if they continue to conduct research.

Consistent with the requirements of the Paperwork Reduction Act, the Agency should commit to collecting the information needed to measure the rule’s success. Some information EPA should collect includes, but is not limited to:

\textsuperscript{18} 79 FR 15447  
\textsuperscript{19} 79 FR 15445  
\textsuperscript{20} 79 FR 15446  
\textsuperscript{21} 79 FR 15447

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• Future reports of acute WPS pesticide incidents,
• Retrospective review of break-even analysis (including total illnesses and willingness to pay to avoid other negative effects of pesticide work), and
• Efficacy of a national training register, hazard communications, and expanding other safety information to workers.

EPA should also collect data on some potential unintended consequences of the proposed rule, including:

• The potential effect of the regulation on undocumented workers.
• Changes to employment levels, and
• The effect on seasonal employment versus medium to long term employment.

**Timeframe**

The text of the proposed rule does not include a timeframe for retrospective review. In the final rule, EPA should identify a timeframe for review, indicating how soon after implementation the agency will begin to measure the progress of its stated metrics. EPA should consider conducting retrospective analyses on a specified time interval to ensure its intended results actually occur. There is a strong need to check back on the costs of the proposed rule and WPS so the public can weigh that figure against the benefits that result from the program.

Also, the agency should consider what timeframe it will be using to review the proposed rule’s impact; will the 56% decrease need to develop within ten years for this rule to be “successful”? Or, will a longer timeframe be needed to see the full effects? Will EPA hope to achieve a particular decrease in reported incidents per year to keep on track for some end? For instance, if the goal is to mitigate 56% of incidents in 20 years, then reported incidents will need to decrease by roughly four percent per year to make that goal. How will the agency make sure it stays on track for its stated objective?

**Measure Linkages**

In the final rule, EPA should not only identify a set of metrics, but make clear how the measures it identifies address the problems that the rule intends to solve. As EPA commits to measuring the effects of this rule, it should also be aware of mediating factors that may have contributed to or undermined the stated metrics absent the rule, as noted above.
Recommendations

As EPA describes in its proposed rule, there are two problems revising and updating WPS standards in regards to pesticide use could address: asymmetric information about the risks of working alongside potentially dangerous chemicals and public health externalities from pesticide exposure. According to the preamble, “EPA expects the revisions, once final, to prevent unreasonable adverse effects from exposure to pesticides among agricultural workers and pesticide handlers; vulnerable groups, such as minority and low-income populations, child farmworkers, and farmworker families; and the general public.”

Both for the development of effective public policy and for measuring the impacts of the regulation once it is issued, EPA should more explicitly articulate the causal nexus between the problems it has identified, implementation of its proposed solutions, reduced pesticide exposure among the target population, and these ultimate public health outcomes.

Particular attention should be paid to consistently distinguishing between the rule, its implementation, its direct outputs, and the medium to long-term intended outcomes. EPA should evaluate the effectiveness of its approach by clearly stating what assumptions need to be verified for the causal logic to produce a specific outcome.

Outputs

- EPA should investigate if field workers had more information readily available that: prevented them from entering areas during REIs, taught them how to properly decontaminate so as not to bring pesticides into their vehicles/homes, or helped them avoid other potential concerns addressed in Measurement Criteria.
- EPA should inquire if small businesses made use of exemptions for pesticide workers.
- EPA should define “unduly burdensome”23 conditions on employers, and consider if the hazard communications requirements meet such criteria.
- EPA should examine any differences in response to the information provision between Spanish speakers and minority languages in the agricultural market.

Outcomes

- EPA should commit to measuring reductions in chronic illness due to pesticide exposure.
- EPA should perform retrospective review on regulatory burdens resulting from its rule at two or three-year increments starting after the rule’s implementation.

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22 79 FR 15443
23 79 FR 15458

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If workers did suggest they had more information available, EPA should assess whether that knowledge stemmed from the proposed rule or if that knowledge came as a result of some other means (the Internet, colleagues, et cetera).

If Spanish speaking workers are found to be made better relative to minority workers, EPA should conduct further retrospective review to consider how they can also help people of other tongues.

**Burdens**

- EPA should investigate whether its standards resulted in any bankruptcies, significant loss of employment, or change in levels of undocumented workers.
- EPA should assess whether goods produced by regulated firms incurred higher costs due to its proposed standards.