SUPPORTING STATEMENT
Altruism and Willingness to Pay for Risk Reduction in US Populations

(1) Title of the Information Collection

Altruism and Willingness to Pay for Risk Reduction in US Populations

(2) Short Characterization/Abstract

This project will investigate whether it is possible to estimate willingness to pay (WTP) for changes in the *distribution of health risks* in a population for use in a benefit-cost analysis. For example, in evaluating the benefits of reductions in air pollutants can one estimate what people would pay for a change in the distribution of health risks—risks that are unevenly distributed across the population—rather than measuring solely individuals' WTPs for reductions in health risks to themselves?

Economic theory acknowledges that altruistic WTP for health risk reductions may be included in a benefit-cost analysis provided people are paternalistically altruistic; i.e., that they care about other people's health but ignore the impact policies may have on their income or wealth (Jones-Lee, 1991, 1992; Johansson, 1992). This is supported by the academic literature and is reflected in public policies that treat health as a merit good. If people are paternalistically altruistic, their WTP for reductions in health risks can be viewed as the sum of their WTP for a risk reduction to themselves and their WTP to reduce risks to others.

This raises two important: (1) How should altruistic values be elicited (i.e., what should people be asked to value)? (2) How should these values be combined with WTP for own risk reductions (i.e., risk reductions to the respondent himself)? EPA is interested in pursuing this further and this work focuses primarily on the first of these two questions: how to represent the distribution of risks to others in a way that is meaningful to respondents?

A few applied studies have looked at altruism generally in the context of health and risk reductions (e.g., Viscusi, et al. 1988; Johannesson et al 1996). Other studies have attempted to address the extent to which individuals show paternalistic altruism (e.g., Andersson and Lindberg, 2009; Jacobsson et al 2007) by asking about purchases and transfers to others. However, none of these studies place own risks and risks to others in the context of a distribution for absolute risks for the respondent and for others, which would seem to be the appropriate choice setting.

These questions were also raised and discussed in the 2009 EPA Workshop on Valuing the Benefits of reductions in Hazardous Air Pollutants (HAPs).[1] For example, at the workshop Dr. Maureen Cropper noted the possibility of eliciting WTP for reduced cancer risks to others in order to more completely characterize these benefits (Cropper, 2009).[2] Subsequently, work by Maureen Cropper and Alan Krupnick has begun to identify how to communicate the distribution of cancer risks associated with Hazardous Air Pollutants (HAPS) to lay people, and respondents' ability to rank policies and their WTP for these policies suggest that it may be possible to elicit values for changes in the distribution of cancer risks associated with toxic air pollutants.

The focus groups proposed under this ICR would build on this work, but the approach proposed here is more general, and is not intended to examine risks from cancer or HAPs specifically.

The goal of the current project is to develop a questionnaire (i.e., survey instrument) that will elicit individuals' WTP for a reduction in risks from air pollutants. This includes WTP for programs that reduce risks to the group to which the individual belongs, as well as WTP for risk reductions to groups in the population to which the respondent does not belong. This will require conducting a series of focus groups to shed light on the following issues:

- Is it better to frame questions on WTP risks to groups as reductions in risks to each percentile of the risk distribution or for the entire distribution of risk?

- How do people respond to the different ways that risk percentiles could be defined for a survey? Options include ranking by the magnitude of baseline risks (e.g., by ranking the population according to baseline risks associated with exposure to air pollutants) or by the socioeconomic characteristics of the population (e.g., sorting the population by income).

- How should the magnitude of risks (and risk reductions) be described to respondents (e.g., in terms of number of deaths per 10 million persons)?

- What are reasonable scenarios and payment vehicles to use to elicit WTP?

- What are the motivations underlying a positive WTP for reductions in parts of the risk distribution other than one's own (e.g., are they motivated by paternalistic altruism)? How do these vary according to how closely related others are?

Results from this exercise will inform the design of a survey instrument to be tested in one-on-one interviews and by individual survey takers. This exercise will not produce

1 Gwinn, et al. 2011 contains a summary of key issues from this workshop.
2 See page 11 of the presentation at
http://www.rff.org/documents/events/090622_risk_regulation/090623_cropper.pdf

results that can be statistically analyzed to estimate willingness to pay for any group or set of individuals, or for any particular policy or program. It will produce, based on the results of these focus groups and tests, an instrument for a full-scale stated preference survey. However, implementing such a survey is beyond the scope of this ICR; any request for implementing that survey will be done in a separate full ICR.

An attached document contains many sample questions to be used in initial focus groups. The document should not be taken to be a final or complete questionnaire, but rather a collection of questions to be further explored in the focus groups. Materials for subsequent focus groups and individual interviews will be developed based on responses to some of these initial questions.

(3) Need for the Collection

The goal of this study is ultimately to improve EPA's ability to characterize the benefits of Agency programs and regulations. To date, the Agency and other analysts have not been able to explicitly incorporate values for distributional concerns and outcomes when evaluating the benefits of health and safety regulations. Usually, benefits are reported at the state or national level and are based on what each individual in the group is willing to pay to reduce risks to him or herself. The benefits of reducing risks to other persons in the population are not included in the analysis.

This pilot project is an important step in determining how to frame questions and design a survey instrument that can capture these values in a manner consistent with benefit-cost analysis. Specifically, the collection proposed under the generic ICR will help establish a viable survey approach to collecting and estimating values associated with reducing risks to others.

(4) Non-duplication

To the best of our knowledge this study is unique and does not duplicate other efforts. While there are a number of efforts at EPA to value reductions in the risk of specific health effects, to better model changes in risk over time, and to generally improve EPA benefits analysis, we are not aware of any that focus on estimating WTP for self and others in a systematic manner. As highlighted in recent consultation with the Environmental Economics Advisory Committee of EPA's Science Advisory Board (US EPA 2011b), the empirical literature on WTP for reductions in risks to both self and others is not yet sufficiently developed to draw quantitative conclusions. This study will not generate quantitative estimates for this WTP but will explore how this might be done in a survey instrument.

(5) Consultations

This is a new collection so no periodic consultations have been conducted related to this effort.

This collection, or perhaps more likely, a potential survey using techniques and an instrument from this collection, may be of interest to other Agencies that regulate health risks, as well as to the Office of Management and Budget. NCEE will make a concerted effort to keep interested parties informed of progress as the survey instrument is developed, and will ensure that these parties are informed of any survey implementation.

(6) Peer Review Plans

As a contract effort, interim products such as focus group scripts and draft survey questions developed during this project will be subject to routine internal review by the NCEE staff. In addition, given that the risks will be presented in the context of air pollutants, NCEE will consult the Office of Air as focus group materials are developed further. External peer review is beyond the scope of this initial effort, but would be conducted prior to any comprehensive field study.

(7) Confidentiality

The survey instrument will fully conform to federal regulations – specifically the Privacy Act of 1974 (5 U.S.C. 552a), the Hawkins-Stafford Amendments of 1988 (P.L 100-297), and the Computer Security Act of 1987. Each prospective respondent will be informed that their participation in the exercise is voluntary. The identities of the individuals will be kept confidential by the investigators and not associated with their responses in any report.

(8) Sensitive Questions

There are no questions included in the survey materials on sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private or sensitive in materials.

(9) Respondents

Respondents will be members of the general public volunteering to participate in focus groups and interviews. Respondents will be recruited through a volunteer forum.

(10) Collection Schedule

The proposed timeline for the data collection is as follows.

Task:	Expected Completion Date:

Contact potential respondents	3 Weeks from survey approval
Conduct Focus Groups	12 Weeks from survey approval
One on one interviews with draft survey instrument	18 Weeks from survey approval
Survey instrument testing	24 Weeks from survey approval

(11) Respondent Burden

We will utilize a purposive sampling of residents in the Washington metropolitan area to select approximately 6-10 participants for each focus group session. We intend to solicit participants online through the community and advertisement website Craigslist. Selected respondents are sent invitations via e-mail in advance of the meeting to confirm their availability for the focus group session.

We plan to conduct four 2-hour voluntary focus groups with 10 people each. This is a total burden of 80 hours. The ten one-one interviews for the draft survey instrument will take approximately 2 hours each, for an additional burden of 20 hours. Finally, we expect 25 individual tests of the survey instrument via web interface. Each of these tests (i.e., taking a version of the draft survey) is expected to take one hour per voluntary respondent, totaling 25 burden hours.

In summary, the total burden for voluntary respondents consists of:

Focus groups:	4 groups * 10 people/group * 2 hrs per person = 80 hours.
One-one interviews:	10 people * 2 hours per person = 20 hours.
Survey instrument test:	25 people * 1 hour per person = 25 hours.

For a total burden of 125 hours.

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