**2011 EEN Forum Notes**

**Session Name**: Measuring the Dosage Effect: Using Tenure as a Variable in Assessing Program Evaluation

**Speaker**: Terrell Lasane, EPA, Moderator

Angela Helman, Industrial Economics, Inc.

Tracy Dyke-Redmond, Industrial Economics, Inc.

Cynthia Manson, Industrial Economics, Inc.

Andy Rowe, ARCeconomics

**Session Date/Time**: 6/23/2011, 4:00 PM

**Note Taker**: Jake Lyonfields

**Main Themes**:

* Determining Causality in Environmental Programs
* Validity/benefits of Certain Experimental Designs

**Detailed Notes**:

1. Angela Helman Presentation – Measuring the Dosage Effect; Using Tenure as a Variable in Assessing Program Impact

* WasteWise established as an EPA program in 1994
* Designed to help organizations in identifying cost-effective strategies for reducing municipal waste, among other things
* WasteWise offers Technical assistance, Networking, and Recognition services
* What can be determined about how WasteWise participation contributes to partner behavior regarding MSW management?
* USPS Survey used – USPS is very active in WasteWise; all relevant USPS facilities have been enrolled since 2008
* Survey focused on recycling and source reduction behavior, and influences on waste management behavior
* Dosage Effect Hypothesis: If better management practices promoted, will see better outcomes for WasteWise practices
* Natural controls for Self-selection bias existed because of documentation of certain practices in USPS system
* Findings on the Dosage effect: Early USPS WasteWise joiners conduct more recycling activities than later joiners, Early USPS WasteWise joiners have higher recycling frequencies than later joiners, Early USPS WasteWise joiners are more aware of their recycling rates than later joiners
* Additional Findings that Underscore Dosage Effect: Timing of when facilities started recycling is generally consistent with when facilities joined WasteWise (among other findings)

1. Tracy Dyke-Redmond Presentation: Measuring Impact of Compliance Assistance on Auto Body Shop Compliance with Air and Hazardous Waste Regulations

* Typology of Evaluation Designs: Non-experimental design, quasi-experimental design, experimental design (from least statistical strength to most statistical strength)
* Pre-test and post-test comparison with judgmental matching, pipeline control group -> these are two quasi-experimental designs used by EPA
* Goal: test impact of EPA compliance assistance on auto body shop compliance with air and hazardous waste regulations
* Massachusetts selected as a study group because of EPA Region 1 planned compliance assistance campaign: There was present a treatment and control group; randomly assigned, considered equivalent
* Project has established a pilot project design that describes when measurements enacted.
* Methodological Notes and Next Steps: Among valid shops, response rates between 80-85% for both states and both years, however, list problems (eg shops going out of business) led to need for many “backup shops”, which increased cost and effort of project, evidence of shops not on list, operating “under the radar” in VA, Some evidence of spillover problems

1. “Attributing Benefits…” presentation – Cynthia Manson

* Project History: EPA ORCR (OSW) faced OMB concerns: Economic benefits of partnership programs, specific ICRs – WasteWise and NPEP, Economic efficiency of programs (PART); identified various needs for robust and harmonized economic analysis
* Economic Reasoning for voluntary programs: To address market failures: imperfect information in the marketplace (signaling failure), lack of knowledge transfer on green approaches from firm to firm (“public god” nature of R&D); To address unregulated or underregulated areas, eg water conservation, pollution prevention
* Potential Impacts of EPA Partnership programs: ie WasteWise, EnergyStar, etc.
* Identifying benefits that are produced: Technical assistance and information sharing (transfer of R&D, innovation), market signaling (EPA recognition informs consumers about environmental quality through various means)
* Problem: Proving program outcomes; no control group, and random assignment not typically feasible in voluntary group
* Proposed approach: Tiered assessment with existing data
* Level 1: Threshold Assessment: Technical Assistance – threshold evidence necessary
* Level 1: Threshold Assessment: Market Signaling
* Level 2: Intervention-Outcome Assessment: Through inventory of program interventions and outcomes (quantified logic model): “What are you doing, how are you doing it, and what are you spending on it?”
* Level 2, step 2: Information on outcomes should include a variety of scale and ultimate benefit information
* Level 3: Quasi-Experimental Design – see this slide on the ppt, as well as the illustration of Boyd’s tiered approach

1. Andy Rowe – New Technique for Comparison to an Alternative: The Negotiated Alternative

* Summative evaluation looks at both merit and worth of the project. It has a comparative aspect by nature
* Evaluation pursues approximate answers to the right questions
* Choice of method should be guided by use (salience, legitimacy and credibility)
* Negotiated alternatives have excellent promise to expand our options for comparison

**Points for Discussion**:

1. What’s now considered acceptable when there is no randomized control trial?
   1. OMB no longer only focuses on RCT, and OMB is beginning to develop quasi-experimental evaluation projects
2. NOTE: It may be necessary to contact members of this presentation to discuss issues of determining causality further. Also, refer to other documents provided on the EEN website