Possible Directions for Program Evaluation
for EPA's National Research Programs

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November 1, 2016

Main points

- Research program evaluation focuses on what has been achieved in the context of program goals.

- It takes into account

  - Quality

  - Relevance

  - Impact

- It draws on systematic information about outputs, intermediate outcomes, and longer-term outcomes or impacts.

- Evaluation data is interpreted and set into context by subject-expert evaluators.

A bit of history

- Program evaluation emerged in the 1970s to evaluate government social programs.
- Research program evaluation tools began to be developed a little later.
  - Bibliometric databases at NIH
  - Evaluation of center programs
  - Systematic program reviews at the Department of Energy
  - Skepticism based on long time lines for results to appear
- Accountability legislation in 1993 pushed all agencies towards more systematic practices.
  - Strategic and performance plans
  - Performance reporting

Varieties of evaluation approaches

- Agencies with different missions approach research program evaluation in different ways.
  - National Science Foundation
    - Deep results reporting
    - Interpretation by expert panels
  - National Institutes of Health
    - External panel reviews for intramural programs
    - Systematic collection of impact stories
- Agencies with focused strategic missions have taken more targeted approaches.

Logic of evaluation

- Logic models are a common tool for organizing thinking about how a program works.
  - Especially important where specific groups of users are important in the program's goals.
- Inputs: money, people, advice
- Activities: experiments, studies, training
- Outputs: immediate tangible products such as publications, reports, tools, students trained
- Intermediate outcomes: such as dissemination activities
- Outcomes/impacts: shifts in problem framing; influence on regulations

Who? When? What?

- Who?
  - Higher-level office commissions the evaluation process and receives results.
  - Evaluation staff develop the systems for collecting results information and compile it for the evaluation.
  - External evaluators chosen for their subject-matter expertise interpret the information and make recommendations.
- When?
  - Can be either one-off or on a regular schedule.
- What questions do they answer?
  - Set by the commissioning office: quality, relevance, impact
  - In the case of EPA national programs, probably compare against goals

What kind of basic information is likely to be available?

- Inputs – available in agency records
  - Planning inputs
  - Overall program budget
  - Funded projects
- Activities – used more for project management than results evaluation
- Outputs – gathered through project reporting system
  - Publications
  - Prototypes
  - Reports
  - Etc.

What other kinds of information might be developed?

- Intermediate outcomes
  - Dissemination activities beyond scientific publication
  - Ideas taken up in larger discussion of issues
  - Students staying in environmental careers
  - Etc.
- Outcomes/impacts
  - Typically presented in examples
  - Some direct policy/regulatory impact might be visible
  - Changes in human health or the environment are outside the sphere of influence or control of EPA research programs

Some sophisticated new tools emerging

- STAR Metrics Project
    - Combining administrative data that exists in agency and university files
- U-metrics
    - Experiment in combining university personnel with IRS employment data
- Literature-based mapping techniques
    - Useful to present positioning of strategic research programs
- Text analysis of project reports
    - Locate particular themes
- Other kinds – as illustrated in EPA's pilot project to be presented next

Discussion? Questions?