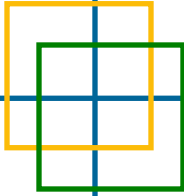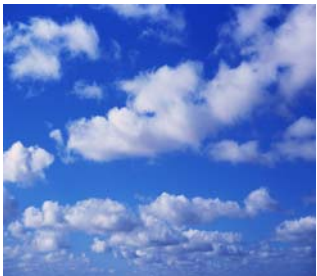# Evaluating the Effectiveness of the EPA Pollution Prevention Information Network Grant Program

Promoting Environmental Results

Through Evaluation

Acknowledgements

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Acronyms

DOE	Department of Energy
EPA	Environmental Protection Agency
ES&H	Environment, safety, and health
GLNPO	Great Lakes National Program Office
GLRPPR	Great Lakes Regional Pollution Prevention Roundtable
GPRA	Government Performance and Results Act
ICR	Information Collection Request
IEc	Industrial Economics, Incorporated
ISO	International Organization for Standardization
MEP	Manufacturing Extension Partnership
MPSC	Midwest Product Stewardship Council
NEWMOA	Northeast Waste Management Officials' Association
OMB	Office of Management and Budget
OPEI	Office of Policy, Economics, and Innovation
OPPT	Office of Pollution Prevention and Toxics
P2	Pollution prevention
P2RIC	Pollution Prevention Regional Information Center
P2Rx	Pollution Prevention Resource Exchange
PPIN	Pollution Prevention Information Network
PPRC	Pacific Northwest Pollution Prevention Resource Center
PRA	Paperwork Reduction Act
SPCC	Spill Prevention, Control, and Countermeasure
TAP	Technical assistance program/provider
WRPPN	Western Regional Pollution Prevention Network
WRRC	Waste Reduction Resource Center
Zero Waste	Southwest Network for Zero Waste

Executive Summary

This evaluation focuses on the Pollution Prevention Information Network (PPIN), a grant program started in 1997 to promote sharing of pollution prevention (P2) information, training, and technical assistance expertise among states. The eight regional centers receiving these grants are collectively known as the Pollution Prevention Resource Exchange (P2Rx), although the centers also receive funding from other sources. P2Rx is managed by EPA's Office of Pollution Prevention and Toxics, Pollution Prevention Division.

P2Rx is a national network of regional pollution prevention information centers (referred to as "the centers") dedicated to increasing the adoption of pollution prevention by improving the dissemination of relevant information. The centers provide pollution prevention information, networking opportunities, and other services to states, local governments, technical assistance providers, and businesses. P2Rx receives a total $800,000 in funding through the PPIN grants, which must be divided among the eight centers.

The purpose of the evaluation is to:
1) Assess the effectiveness of the PPIN Program in promoting the adoption of P2 opportunities.
2) Identify opportunities for creating a more effective interface with customers (both intermediate customers (i.e., TAPs) and final customers (i.e., businesses and other polluting entities).
3) Identify current efficiencies in information collection and dissemination as well as future opportunities for improving efficiency.
4) Determine how P2Rx activities (outputs) can be linked to long-term environmental outcomes (listed under the goals of the Government Performance and Results Act [GPRA] and the PPIN's environmental outcomes).

Methods

The Evaluation Team began the evaluation process by developing and refining a set of evaluation questions to be answered. Abt Associates also developed a logic model to illustrate the activities, customers, outputs, and outcomes of the entire P2Rx program, based on individual logic models created by each of the centers. Finally, Abt developed a data analysis plan to guide the examination of the data collected.

Abt Associates used a variety of qualitative and quantitative data to evaluate the P2Rx centers. Qualitative information was used to determine the structure and operation of individual P2Rx centers and the types of P2Rx activities and outputs that are most important and useful to stakeholders for enabling change. Qualitative data were also used to make observations about the perceived effectiveness of the P2Rx centers in meeting their stated goals. Quantitative data were used to examine which P2Rx resources and tools are being used most frequently, and with what audiences the P2Rx centers are communicating.

Qualitative data sources included:
- Interviews with Center Directors, TAPs, and business representatives from all regions;
- Focus groups with TAPs and business representatives from Regions 9 and 10; and
- Review of national P2Rx and center documents.

Quantitative data sources included:
- National-level surveys, conducted online and in person in 2004 and 2007/2008; and
- Web Measures and Activity data reported twice annually by the centers.

Conclusions and Recommendations

The following is a summary of the conclusions and recommendations of this evaluation. The results are grouped together by broad themes, as well as by that theme's corresponding evaluation question(s). The evaluation questions are included in italic text.

Center Operation Models (Evaluation Question 1)

1) *What model(s) do the P2Rx centers use to encourage exploration and adoption of P2 practices?*
   a) *How are centers currently operating and what model(s) are they using to disseminate information?*
   b) *Which of the centers' model(s) is most efficient in information sharing and/or delivery?*
   c) *When comparing among centers, what opportunities for centers' information delivery to become more efficient are observed?*
   d) *What opportunities are there for centers to become more efficient in information delivery by sharing tasks?*

The centers use a wide variety of models to fulfill the mission of P2Rx. Variation exists in organizational structure, physical location (e.g., co-located with a TAP, university, or regulatory agency), size of staff, availability of resources, sources and use of funding, activity emphasis, and customer base.   With this variation, each center possesses different qualities and meets their objectives in ways that are both unique and similar, depending on the element. The evaluation is inconclusive as to which single model may be most efficient but indicates that an eight-center network is an effective method to reach the network's objectives. P2Rx as an interactive network does appear to strengthen the abilities of any single provider, but there are also inherent inequalities. Overall, as an information "wholesaler" with responsibility for compiling and providing information to more localized entities (e.g., TAPs), a regional model for the centers does appear to be effective. The existence of a national network makes it possible for the centers to deliver more and better information to their customers, as the centers can focus on unique regional needs while tapping into national resources. The centers do have strong and constructive relationships with organizations and individuals within their region.

Considerable efficiency has been gained over the years in centralizing certain functions in one or two centers. Successful examples include the case study database supported by Zero Waste, centralized IT support for certain activities and overall Web site maintenance, the centralized management of the P2 Programs Database, and of course the library at WRRC. Web support and programming was cited as an obvious opportunity to centralize so that the network capitalizes on the strength of certain centers' IT expertise. For the most part, this seems to be working well and to be enthusiastically supported by center staff. One observation is that it is not clear if or how a center is compensated for taking on a particularly labor-intensive task, or if resource limitations could be a disincentive for doing so. Further, there may be an inherent contradiction in sharing tasks in order to gain efficiencies. For example, if services or

functions are centralized in a particular center (e.g., library services or Web support), that center will be using a greater portion of their resources supporting that centralized function. The result may be that they are less able to do other functions, such as providing direct assistance to businesses, or possibly to measure outcomes.

Recommendations

- P2Rx should continue to work together as a network of distinct programs, and should share responsibilities where appropriate as well as centralize tasks where appropriate. Continue to make well-reasoned decisions about what tasks are best suited to be done in a centralized way. Specifically, there appears to be benefit in centralizing the functions for collecting case studies, maintaining the P2 Programs Directory, performance measurement, and some of the coding responsibilities.
- It is an understandable concern that the centers spend considerable time communicating with one another, an activity that could impinge on the time they have to spend reaching out to end users. To some extent this is a necessary part of networking. However, communication should be value-added and done efficiently. Suggestions include the use of facilitators, limits on the number of conference calls, and setting clear objectives for each meeting.
- Consider making the PPIN grant process more streamlined and/or award multi-year grants. This would reduce the time centers spend on writing proposals and allow for longer-range activity planning.

P2Rx Information Users (Evaluation Question 2)

2) *What groups/types of customers access P2Rx information?*
   How do the customers vary according to method of outreach by the centers?
   - *Via the Web site*
   - *Via TAPs*
   - *Via direct contact (e.g., telephone, correspondence, or other communication)*
   - *Via P2Rx workshops, trainings, and regional meetings*

The evaluation characterized the groups of customers that access P2Rx information, but was not able to determine how the groups or types of customers vary according to the method of outreach by the centers. Some determinations about the customers of P2Rx can be made based on the data reviewed for the evaluation. Information that would characterize the users of the Web sites, TAPs, telephone or e-mail correspondence, or face-to-face sessions, either does not exist or has not been collated.

Through interviews we learned that businesses access P2Rx information primarily via Web sites, direct contact, or training sessions. Data available from Activity Measures show listserves and newsletters going out to the largest number of customers, as compared to meetings and direct contact. Information on the identity of these recipients is kept by some centers, but not across the network. The same is true for Activity Measures, which show number of meetings and number of attendees at meetings but does not capture the identity of attendees. Web

measures do not capture the type of user, but do show a significant increase in usage of the Web site over the years. 2007/2008 Behavior Survey data gave an indication of the types of users that were using the P2Rx Web sites, and how they were using them. Activity Measures show that the majority of customers for direct contact are from government, but with a declining percentage of requests from government entities, and an increasing percentage of business and industry requests. In contrast, the 2007/2008 Behavior Survey shows more than twice as many TAPs using the P2Rx Web sites than businesses. Overall, this information is inconclusive in responding to the evaluation question.

Recommendations

- Use a consistent method of characterizing customers for all of P2Rx. Identification according to the two groups used in the 2007/8 Behavior Survey is recommended, as it addresses how the customer uses P2Rx and not just who they are. If an additional level of detail is desired, affiliation can be used as subcategories.
- Rapid Response (and other telephone or e-mail-based on-demand services) offers a valuable opportunity to capture, tabulate and analyze information on types of customers and types of request. Centers should collect and analyze information on the identity of these customers. Some centers already collect this information, but it does not appear to be analyzed. Centers that do not currently capture this information should consider doing so.
- Characterize and analyze the identity of conference attendees. While the number of attendees is captured for the P2Rx Activity Measures, the identity of these participants is not examined in a comprehensive way.
- Make the Web sites more interactive so that centers can gather information to characterize their users. Many centers suggested this. Ideally, this would be interactive so that users can indicate what they are using. The most popular suggestion that came from several centers was to place a pop-up on the Web site asking a single question, such as what sector or audience segment the user belongs to. Their usage would then be tracked using a cookie. This would allow the center to identify their user group, as well as track their repeat usage. Without follow-up the centers still wouldn't know about impact, but they would know about reach. This recommendation would, however, require the centers to invest more resources in changing their Web structure, as well as tracking users.
- Require or offer registration for use of the site. This would provide the center with information they could use to identify their users and follow up with them. Consideration can be given to have registration for discrete parts of the site rather than the entire site.

Usefulness of P2Rx Products (Evaluation Questions 3 and 4)

3) *What products, services, and content do businesses need to make a decision/consider the adoption of P2 practices?*
   a) *Are the centers providing the right products, services, and content to businesses to promote the adoption of P2 practices?*
4) *What products, services, and content do TAPs need to promote businesses' adoption of P2 practices?*
   a) *Are the centers providing the right products, services, and content to TAPs to promote the adoption of P2 practices by businesses?*

Businesses expressed three main priorities in their information needs:
- Up to date technical content that is easy to find on the Web using search engines and is organized by process, topic or technology in addition to by sector.
- Information on cost of alternatives, viable substitutes, product-specific vendor information, military prohibitions, and case studies and success stories.
- Services to help them with the cost and technical aspects of implementing P2, ways to address or preclude regulatory requirements, and networking opportunities.

TAPs expressed three main priorities in their information needs:
- Up-to-date information with working links, maintaining the existing sector-orientation;
- Help with marketing and "selling" P2 to their customers; and
- Assistance with measurement of P2 effectiveness and cost savings.

While many centers do have well-established networks with TAPs and other stakeholders to determine customer needs and whether the centers are meeting them, it is neither systematic nor consistent across centers. Further, more feedback mechanisms exist for TAPs and government entities than for industry. The information obtained from the evaluation, particularly the interviews and survey results, indicates that the centers appear to be providing some of the right products, services and content to businesses to promote P2, but the information is anecdotal. There exist numerous opportunities to address customer needs further and to provide more useful and appropriate products, services, and content.

Recommendations

- Make better use of steering committees, advisory boards, board of directors, and/or state or regional roundtables or other stakeholder groups to solicit information about needs and whether needs are being met by P2Rx. This should have two key components: (1) an attempt should be made to do this more consistently across centers, possibly having a core set of questions that are asked and an agreed-upon periodicity; and (2) questions should include those regarding effectiveness, not just priorities and needs. This will primarily provide information from intermediate users.
- If P2Rx does, in fact, want to be able to address more directly the needs of end users, a consistent network-wide mechanism must be established to identify these needs. Mechanisms for collecting information from end users may include:
  - Collecting info from Rapid Response and other on-demand services as a way to evaluate need. This opportunity should be exploited by all centers to characterize the needs of the user community, and possibly hone in on repeat requests that can be addressed system-wide.
  - As a way to gauge the usefulness of products, and possibly in addition to collecting more user information, use a pop-up window on the Web sites to ask a single question of the user after they access a particular resource to learn if it met their needs (e.g. "How useful was this fact sheet to you?").
  - Conduct a survey or focus groups of a particular, well-defined, user group to determine their needs.

- - Use the recurring process implemented by Zero Waste, i.e., use assistance providers to identify needs and develop tools, conduct a workshop, obtain commitments for action from attendees, follow up six months later, and collect results information. The information from the workshop is placed on the Web for broader market penetration. This model can be used for either an end-user an intermediate-user audience.
- If the emphasis is, in fact, on providing services to end-users, the information on the center Web sites needs to be redirected toward process rather than organized by sector based on the findings of this evaluation.
- If the emphasis is on improving services to TAPs, add information that would help them persuade businesses to adopt P2, and a measurement tool.
- Expend adequate resources to keep information up-to-date on center Web sites.

Adoption of P2 Practices by Businesses (Evaluation Question 5)

5) *To what extent do businesses that use P2Rx centers change their practices or adopt P2 practices?*
   a) *Do businesses use P2Rx information as a resource to solve pollution problems or to help them adopt P2Rx practices?*
   b) *What causes/influences businesses to seek P2Rx information?*

The evaluation provided an indication that businesses use information and services from P2Rx to change their awareness and practices, leading to environmental outcomes. Survey results and case studies are currently the best source of information to examine this nationally. Interviews for this evaluation identified several cases in which businesses claimed to have changed practices as a result of using P2Rx information; however, this evidence is not well documented. The evaluation did determine that although some businesses use P2Rx information as a trusted resource for solving pollution problems, they use many other resources as well, making it difficult to attribute results to P2Rx. The causes for business to seek P2Rx information are the same as those that cause them to seek any P2 information, i.e., cost savings, need for safer substitutes, responding to customer demand, regulatory compliance, etc. Overall, the design of this evaluation was not able to isolate the affect of P2Rx on the target populations from other factors that may influence the adoption of pollution prevention practices.

Recommendations

- Continue to collect case studies. Consider compiling and tabulating them to show cumulative cause and effect of center activities. However, reliance on information collected as a result of direct assistance to end users will have limitations with respect to the number of customers reached and the resulting quantity of outcomes.
- Perform follow up with the target audience to determine if approaches are effective at making change happen. This can be follow up from Rapid Response-type intervention, workshop attendance, or any other venue where you know the identity of the customer. P2Rx should develop some standard protocols to be used by all centers.

- Collect outcome information *as part of* the activity to best engage the captive audience. This can be done by collecting information from workshop participants or asking for a commitment to action. This model is used by Zero Waste.
- Dedicate discrete resources to do follow up for activities. At their discretion, the centers might hire an individual to support the entire network as another shared activity.

Outreach to Businesses Directly and Through TAPs (Evaluation Questions 6 and 7)

6) *Are the centers effective in reaching businesses through TAPs?*
   a) *What do centers do to reach businesses through TAPs?*
   b) *Can any outcomes (short-term, intermediate, or long-term) be attributed to information received from P2Rx centers?*
7) *Are the centers effective in reaching businesses directly?*
   a) *What do centers do to reach businesses directly?*
   b) *Can any outcomes (short-term, intermediate, or long-term) be attributed to information received from P2Rx centers?*

While EPA has directed the centers to shift their focus to targeting businesses and other end users, the centers are implementing this to a greater or lesser extent across the network. There does not seem to be a clear delineation between how centers reach businesses directly as opposed to through TAPs. Some of the centers are TAPs as well. For many, the TAP/center interaction worked well, leveraging resources and expertise to effectively serve the end user.

The evaluation concludes that centers more effectively serve intermediate customers than end users for the following reasons:
- Not all centers have the resources (technical and/or financial) to provide assistance directly to end users. In many cases it is considered out of scope or not a part of their stated mission. In these cases, or unless the emphasis is *removed* from serving the TAP community, additional resources would seem to be needed for such a retooling.
- Serving end users would appear to duplicate the work of the TAPs. This should be considered in the context of efficient use of government funds, as well as the specific niche intended to be filled by each of these two sets of service providers. While there appears to be some reluctance to work with TAPs when they are connected to a regulatory agency, this does not seem to be a major concern. One of the P2Rx centers also resides within a regulatory agency.
- In general, the interplay between the centers and TAPs appears to be highly effective, i.e., the centers as researchers and information providers, and the TAPs to provide end users with useful information for implementation.
- Businesses clearly see benefits in using P2Rx services. This would seem inevitable with a resource as rich as P2Rx. The question should be asked if that means the centers should actively *direct* their efforts towards end users, as opposed to it being a fortunate, but passive, side benefit.
- The network does not have adequate tools in place to characterize the end user audience, determine its needs, or determine if P2Rx is providing the right products, services and

- All centers currently focus on intermediate users, but only a portion of them direct their efforts to any degree to end users.
- Similarly, the recommendation from the 2002 Customer Satisfaction Survey was to focus on the primary audience of technical assistance providers.

In general, the centers are more effective at reaching businesses through TAPs. For determining effectiveness on long-term performance measures, however, it is simpler to get results directly from businesses as opposed to trying to measure the effectiveness of reaching businesses *through* TAPs. If the centers would like to better reach end-users, findings suggested the centers should better promote their services in business-oriented forums. The fact that the centers were a neutral, non-regulatory entity encourages businesses to seek them out.

Conclusions regarding Outcomes are addressed under Question 5 above.

Recommendations

- Continue to *focus* on intermediate users rather than on end users. Work with end users as a secondary audience as appropriate for each individual center.
- If interested in reaching the end user, promote and market center resources more widely and beyond the usual venues. For example, advertise in business journals or on business Web sites, attend business meetings and workshops in addition to or in place of P2Rx-sponsored events.

Performance Measurement (Evaluation Question 8)

8) What performance measures do P2Rx centers need to collect in order to demonstrate/ document client behavior and other outcomes?
   a) How would the centers that currently do not have the capacity to make/gather the desired measurements build their capacity?
   b) How can the information best be collected based on available technology, funds, and survey approval requirements?

Centers' capabilities to measure performance vary widely, however it is clear that additional capacity is needed to establish a robust network-wide system of measurement. Individual centers have different capacity to perform measurement based on their staffing and other factors. For example, Zero Waste and PPRC have better capacity to obtain outcome information from Texas and Washington due to the P2 Planning requirements in those states. The P2 Results system is considered to be useful by some stakeholders, but not by others. Centers have conducted surveys, both in person and online, of various audiences for various purposes over the years. Conference pre- and post-surveys can provide an indication of the effectiveness of that particular event and perhaps the future needs of the audience. However, questions about outcomes can only be answered prospectively, unless follow up is conducted. The usefulness of national or regional surveys such as those that have been conducted of users

at various times will vary depending on how they are conducted, how many respond, the ability to characterize the respondents, and what is done with the results. The recently conducted 2007/2008 Behavior Survey is useful, but it cannot be said to be reliably representative of the customers of P2Rx. The findings show that short-term and intermediate outcomes are more clearly influenced by the centers, but final outcomes are extremely difficult to assess.

Recommendations

The two tables below present recommendations for improving the usefulness of existing measures and gathering new measures to better assess the centers' performance.

Table A: Recommendations for Existing Measures

Existing Measure	Description	Recommendations and Affected Outcomes
Activity Measures	Currently collect: • Technical Assistance Requests—number, type of organization, and location • Newsletters—number • Listserves—number and number of subscribers • Meetings/trainings organized—number and number of attendees • Meetings attended and talked about P2Rx—number and number of attendees • Regional conference calls—number	• Continue to collect Activity Measures ⇒ *Defines Outputs and some Customers* • For Newsletters, Listserves and Meetings, identify recipients/ attendees using commonly agreed upon identifiers ⇒ *Defines Customers* • For Technical Assistance Requests, use contact information to conduct follow up ⇒ *Defines Outcomes*
Web Measures	Currently collect: • User sessions • Page views • Visitors that visit more than 10 times • User sessions for specific products	• Continue to collect Web Measures ⇒ *Defines Outputs* • Identify user with a single question upon entry – or – via registration ⇒ *Defines Customers* • Use cookies to track which pages these users view ⇒ *Links Outputs to Customers* • Attach cookies to a pre- and post-test for users. If someone accesses a document, for example, they can be asked "Was this information useful to you? Yes/No." ⇒ *Links Customers to Short-Term Outcomes*

Case Studies	Currently collected to varying degrees among centers. P2RIC and Peaks to Prairies currently contribute to Zero Waste's case study database	• Continue to collect case studies
		  ⇒ *Defines Activity, Output*
		
		• Consider summarizing the activities and customers and tabulating the quantitative data to show cumulative cause and effect of center activities
		  ⇒ *Links Customers to Outcomes (with causality)*

P2 Results	Centers currently conduct or facilitate data entry from others	• Enhance P2 Results so that the results reporting by TAPs and others can be attributed to specific center activities. Recommend a more in-depth analysis of P2 Results to generate detailed recommendations ⇒ *Intermediate and Long-Term Outcomes (with causality)*
National Surveys	Currently have results of two National Surveys	• Conduct center-specific analysis on 2007/2008 Behavior Survey ⇒ *Customers and Outcomes*
User Needs Assessments	Currently conducted to varying degrees among centers	• Survey established stakeholder groups periodically and consistently (NEWMOA model), or assess needs during workshops (Zero Waste model). In either case, standardize questions to obtain needed information
Pre- and Post-Conference Surveys	Currently conducted to varying degrees among centers	• See below

Table B: Recommended New Measures

Recommended Measures	Recommendation and Affected Outcomes

Pre- and Post-Conference Surveys	• Standardize use of pre- and post-test surveys at conferences and workshops for all centers
	• Ask respondents to identify themselves by two groups, similar to what was used in the 2007/2008 Behavior Survey
	  ⇒ *Defines Customers*
	
	• In addition to asking questions about the effectiveness of the specific event (for center use), ask general and standard questions about needs and recommendations for P2Rx as a whole
	  ⇒ *Short-Term Outcomes, Needs Assessment*
	
	• Have questionnaires be collected by EPA and analyzed.
	  ⇒ *Defines Customers, Short-Term Outcomes, Needs Assessment Network-wide*
	
	• Conduct follow up with attendees to record changes
	  ⇒ *Intermediate and Long-Term Outcomes*

National and Regional Surveys	• Conduct a random assignment survey of a specified target population • Note: May be used to provide a probability sample and would allow more statistically valid inferences to be drawn from the survey. Would likely require an ICR. ⇒ *Short-Term, Intermediate, Long-Term Outcomes*
Pre- and Post-Outreach Surveys	• Provide a resource to an established group of people (e.g., partners) that has agreed to provide results information. For example, a particular information packet can be distributed to a partner audience (e.g., schools in a state or district, businesses in a consortium) whose identities are known. Develop boilerplate language for agreements. • Care should be taken in this case to address potential bias, and ideally a control group would be used of similar individuals who did not receive the resource. • Survey the audience pre- and post-assistance ⇒ *Short-Term, Intermediate, Long-Term Outcomes*
Measurement Prerequisite	• Require a commitment to measure as a precondition of any provision of services, as some centers are already doing or considering ⇒ *Long-Term Outcomes*
Direct Contact Follow up	• Perform follow up with all customers for whom contact information is known to gather outcome information (e.g., Rapid Response and other telephone or e-mail based on-demand services). Attempt to make this an intrinsic part of the activity for maximum resource efficiency. ⇒ *Short-Term, Intermediate, Long-Term Outcomes*

Other recommendations:
- Conduct further study to determine how similar information providers measure their performance. This was initially proposed to be covered in this evaluation, but was ultimately excluded from the scope of the study. Several potential sources of information are cited in the literature review developed by Fred MacVaugh for P2RIC, including work done by the Centers for Disease Control and United Way. These organizations and others, such as university extension programs, have examined ways to link information dissemination with behavior change and other related outcomes.
- Do not hesitate to capture behavior change or other intermediate outcomes if ultimate outcomes are not available. Behavior changes can be assumed to be correlated in a general way with long-term outcomes, even if these outcomes are not quantified.

1 Introduction

This evaluation focuses on the Pollution Prevention Information Network (PPIN), a grant program started in 1997 to promote sharing of pollution prevention (P2) information, training, and technical assistance expertise among states. The eight regional centers receiving these grants are collectively known as the Pollution Prevention Resource Exchange (P2Rx), although the centers also receive funding from other sources. Total annual funding for PPIN is $800,000.

1.1 Program Description

P2Rx is a national network of regional pollution prevention information centers (referred to as "the centers") dedicated to increasing the adoption of pollution prevention by improving the dissemination of relevant information. The centers provide pollution prevention information, networking opportunities, and other services to states, local governments, technical assistance providers (TAPs), and businesses. The long-term goals of P2Rx are to:
- Serve as the first stop for P2 information
- Increase the awareness, accessibility, and usability of P2 information
- Facilitate dynamic regional P2 networks.[1]

P2Rx centers work closely with assistance programs in their geographic region and support the efforts of these programs in advancing the adoption of source reduction practices by businesses. Centers collect, organize, and develop P2 information, as well as facilitate networking among practitioners and others in their region. P2Rx centers also collaborate together on various projects and a National Program Manager facilitates these interactions.

Each center is funded, at least partially, through grants from EPA. The regional centers are:
- Northeast Waste Management Officials' Association (NEWMOA) (EPA Regions 1 and 2)
- Waste Reduction Resource Center (WRRC) (EPA Regions 3 and 4)
- Great Lakes Regional Pollution Prevention Roundtable (GLRPPR) (EPA Region 5)
- Southwest Network for Zero Waste (EPA Region 6)
- Pollution Prevention Regional Information Center (P2RIC) (EPA Region 7)
- Peaks to Prairies Pollution Prevention Information Center (EPA Region 8)
- Western Regional Pollution Prevention Network (WRPPN) (EPA Region 9)
- Pacific Northwest Pollution Prevention Resource Center (PPRC) (EPA Region 10)

Each of the eight regional centers is a unique entity, providing a different mix of services customized to address the needs and interests of its customers. The centers each have a Web site which serves as a "storefront." Most customers are familiar with P2Rx through their regional center and go to the regional Web site first for information. The Regional Center Web sites act as portals to the resources of the overall network. The national P2Rx.org Web site provides an additional point of entry into the network and is easily accessible to users that recognize the P2Rx brand.

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[1] From 2007 - 2008 P2Rx Strategic Plan EXTERNAL DRAFT Revised 1/18/07.

1.2 Purpose and Evaluation Questions

The purpose of this evaluation is to:

1) Assess the effectiveness of the PPIN Program in promoting the adoption of P2 opportunities.
2) Identify opportunities for creating a more effective interface with customers (both intermediate customers (i.e., TAPs) and final customers (i.e., businesses and other polluting entities).
3) Identify current efficiencies in information collection and dissemination as well as future opportunities for improving efficiency.
4) Determine how P2Rx activities (outputs) can be linked to long-term environmental outcomes (listed under the goals of the Government Performance and Results Act [GPRA] and the PPIN's environmental outcomes).

Based on the evaluation purpose, the Evaluation Team worked with Abt Associates to refine a list of evaluation questions. The team is comprised of EPA staff from both program evaluation and PPIN programs, and P2Rx center staff. These eight questions served as the basis for our data collection and analysis strategies.

1) What model(s) do the P2Rx centers use to encourage exploration and adoption of P2 practices?
   a) How are centers currently operating and what model(s) are they using to disseminate information?
   b) Which of the centers' model(s) is most efficient in information sharing and/or delivery?
   c) When comparing among centers, what opportunities for centers' information delivery to become more efficient are observed?
   d) What opportunities are there for centers to become more efficient in information delivery by sharing tasks?

2) What groups/types of customers access P2Rx information?
   a) How do the customers vary according to method of outreach by the centers?
   - Via the Web site
   - Via TAPs
   - Via direct contact (e.g., telephone, correspondence, or other communication)
   - Via P2Rx workshops, trainings, and regional meetings

3) What products, services, and content do businesses need to make a decision/consider the adoption of P2 practices?
   a) Are the centers providing the right products, services, and content to businesses to promote the adoption of P2 practices?

4) What products, services, and content do TAPs need to promote businesses' adoption of P2 practices?

a) Are the centers providing the right products, services, and content to TAPs to promote the adoption of P2 practices by businesses?

5) To what extent do businesses that use P2Rx centers change their practices or adopt P2 practices?
   a) Do businesses use P2Rx information as a resource to solve pollution problems or to help them adopt P2Rx practices?
   b) What causes/influences businesses to seek P2Rx information?

6) Are the centers effective in reaching businesses through TAPs?
   a) What do centers do to reach businesses through TAPs?
   b) Can any outcomes (short-term, intermediate, or long-term) be attributed to information received from P2Rx centers?

7) Are the centers effective in reaching businesses directly?
   a) What do centers do to reach businesses directly?
   b) Can any outcomes (short-term, intermediate, or long-term) be attributed to information received from P2Rx centers?

8) What performance measures do P2Rx centers need to collect in order to demonstrate/ document client behavior and other outcomes?
   a) How would the centers that currently do not have the capacity to make/gather the desired measurements build their capacity?
   b) How can the information best be collected based on available technology, funds, and survey approval requirements?

1.3 Evaluation Audience

The primary audience for this evaluation will be those responsible for managing and operating P2Rx center activities. These include the PPIN/P2Rx program manager at EPA headquarters, EPA regional P2 coordinators, and the staff and boards of directors of each of the P2Rx centers. We expect that the P2Rx centers and the EPA program manager will use the results of the evaluation to improve the efficiency of P2 information delivery and develop better approaches for documenting the P2 outcomes that result from their activities.

Secondary audiences for the evaluation results will include other external stakeholders. For example, the evaluation results will be of interest to the Office of Management and Budget (OMB) to the extent that this evaluation establishes a basis for relating national P2 results to P2Rx grants (outputs and outcomes). The EPA Office of Pollution Prevention and Toxics (OPPT) may also use the results to meet the environmental results requirements under GPRA.

1.4 Program Logic Model

The evaluation questions developed by the Evaluation Team were guided by a logic model of the P2Rx centers (see Figure 1-1 and the evaluation question numbers indicated in the model). The logic model describes the work the centers do related to information dissemination. A logic

model is a representation of how a program is hypothesized to work by illustrating the causal relationships among its resources, activities, outputs, and short-term, intermediate, and long-term outcomes. It also helps create an evaluation framework by identifying questions for each logic model component, which can enhance the evaluation by focusing it on questions that produce valuable and relevant answers for the program.[2] The logic model highlights the key connections between program components and outcomes and provides a context with respect to how the program operates.

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[2] W.K. Kellogg Foundation, "Guiding Program Direction with Logic Models," Item #1213, undated.

Figure 1-1: Generic P2Rx Information Dissemination Logic Model

Pollution Prevention Resource Exchange (P2Rx) Centers Program Logic Model—Information Dissemination ①

Mission: P2Rx is a national network of regional centers dedicated to improving the dissemination of pollution prevention information in the service provider community.

| Resources | Activities | Outputs | Customers | Outcomes ⑥⑧ |

Resources

Funding
- EPA PPIN
- State PPIN Match
- Other State / Local Funding

Expertise / Skills
- Staff Skills
- P2 Knowledge
- Technical and Web Expertise

Partners
- National P2Rx
- States
- Boards / Committees / Roundtables

Activities

- Conduct evaluation and measurement
- Create and conduct trainings and seminars
- Provide and participate in networking opportunities
- Provide technical assistance
- Design and maintain websites
- Collect and produce information resources and content
- Market resources

Outputs

- P2 Results
- Case studies of successes

- Trainings, seminars, conferences

- Partnerships
- Listservs
- Conferences / Roundtables
- Conference calls / meetings

- Technical Response (e.g. Rapid Response)

- Center websites
- Ancillary websites

- Topic Hubs
- Newsletters
- Case Studies
- Databases

- Marketing materials ③④

The individual centers place different emphasis on the two customer categories

⑥ ⑦

Customers

Other Centers

Intermediate
- TAPs
- Local / State Governments
- Non-Profit Organizations
- University Technical Centers
- Business Associations ②

Final
- Industry
- Businesses
- Utilities
- Schools
- Local / State Governments
- Other ②

Outcomes

Short-term: Improvements in information content, delivery, sharing, and access

Inter-mediate: Capacity to provide P2 resources and services is enhanced

Short-term: Increased awareness of P2 ⑦

Inter-mediate: Implementation of P2 plans and practices ⑤⑦

Long-term

Content of, access to, and delivery of P2 information and assistance is efficient and of high quality

Cost savings for final customers

Reduced energy use, water use, natural resource use, and waste produced

Feedback for improved quality, access, and delivery of P2 information and assistance

Resource Variation Highlights

Funding
- SRAP Grant—GLRPPR, NEWMOA, PPRC, Zero Waste

Partners
- Academia—GLRPPR, NEWMOA, P2RIC, Peaks, Zero Waste

Unique Center-Specific Highlights

Outputs
- P2 Tech Profiles, IT Tools— NEWMOA
- P2 Planner, Other Databases—Zero Waste

- Toolkits, Homes Across America—Peaks
- News, Podcasts—P2RIC
- Webinars—PPRC, WRPPN, Peaks
- Library—WRRC

Customer Variation Highlights

Intermediate
- Consultants—Peaks, PPRC

Final
- International—WRRC, GLRPPR, WRPPN, Zero Waste
- Tribes—GLRPPR, Peaks
- Military—Zero Waste

Legend:

① Relevant Evaluation Question

P2: Pollution Prevention
PPIN: Pollution Prevention Information Network
TAP: Technical Assistance Provider

The logic model presented here represents a synthesis of all P2Rx centers' activities, and so is highly generalized. Although it notes some variations we identified among centers in particular areas, the model represents the main inputs, activities, customers, and outcomes common to most of the centers. During interviews with center contacts we learned more about the similarities and differences between centers with respect to elements of the logic model. This information was used to create a set of refined logic models that reflect more specifically the inputs, activities, outputs and customers of each individual center (see Appendix A). The intention was to be able to identify distinct groupings among them that might reflect models of information dissemination.

In examining these logic models it may be noted that while the centers are largely similar in their information dissemination activities and outputs, there is considerable variability among them. Additionally, there has historically been a shared agreement among the P2Rx centers to focus on TAPs as their primary customers, with industry and other polluting entities as secondary customers (termed "intermediate" and "final" customers, respectively, on the logic model). EPA recently shifted its focus to encourage centers to directly target the end user. This has been and is being implemented to differing extents in each center, a fact that is addressed in this evaluation.

With these points in mind, we identified the key linkages between the evaluation questions and the logic model. The following table presents the logic model components that are relevant to each of the evaluation questions.

Table 1-1: Crosswalk of Evaluation Questions with Logic Model Components

Evaluation Question	Relevant Logic Model Component
1	Generic logic model as a whole, as well as those that reflect center groupings based on model type
2	Intermediate and Final Customers
3, 4	All Activities and Outputs
5	Outcome: Implementation of P2 plans and practices
6	All Activities and Outputs that Are Directed at TAPs (6a) All Outcomes (6b)
7	All Activities and Outputs that Are Directed at Business Outcome: Increased Awareness of P2 (7a) Outcome: Implementation of P2 Plans and Practices (7b)
8	All Outcomes

1.5 Organization of Report

This report is composed of four main chapters:

Chapter 1, Introduction, describes the P2Rx program and identifies the purpose of the evaluation, its audience, and key questions that will be answered.

Chapter 2, Methods, summarizes the approach for conducting the evaluation, based on the EPA-approved methodology and data analysis plan.

Chapter 3, Findings, discusses the collected, analyzed, and reviewed data on the centers, technical assistance providers, and businesses according to the following general themes: center operation models, P2Rx information users, usefulness of P2Rx products, outreach to customers, attribution of outcomes, and performance measurement.

Chapter 4, Conclusions and Recommendations, provides concluding statements about the evaluation findings and discusses the Evaluation Team's recommendations for P2Rx to improve its efficiency and better measure the outcomes it influences.

2 Methods

The evaluation of P2Rx used a mixed method approach, and involved collection and analysis of both quantitative and qualitative data. This chapter summarizes the data collection and analysis methods. Prior to collection of data, the Evaluation Team began the evaluation process by developing and refining the set of evaluation questions to be answered (see Section 1.2). Abt Associates also developed a logic model to illustrate the activities, customers, outputs, and outcomes of the entire P2Rx program, based on individual logic models created by each of the centers (see Section 1.4). Finally, Abt developed a data analysis plan to guide the examination of the data collected (see Section 2.2).

Abt Associates followed practices and procedures as per the project's Quality Assurance Project Plan (March 4, 2008). For more information on the approach taken for this analysis, please see "Evaluating the Effectiveness of EPA's Pollution Prevention Information Network (PPIN) Grant Program: Program Evaluation Methodology," February 1, 2008.

2.1 Data Collection Methods

Abt Associates used a variety of qualitative and quantitative data to evaluate the P2Rx centers. Qualitative information was used to determine the structure and operation of individual P2Rx centers and the types of P2Rx activities and outputs that are most important and useful to stakeholders for enabling change. Qualitative data were also used to make observations about the perceived effectiveness of the P2Rx centers in meeting their stated goals. Quantitative data were used to examine which P2Rx resources and tools are being used most frequently, and with what audiences the P2Rx centers are communicating.

The sources and methods were chosen because they were feasible given the available time, resources, and information. The data, when taken together, provide a comprehensive response to the evaluation questions. Existing data for this evaluation are rich and multi-faceted, yet often anecdotal or center-specific. To address these limitations, new information was collected through interviews, focus groups, and a national survey. Interview and focus group questions had the advantage of specifically addressing the evaluation questions for this project.

Each data collection method used is described below along with the evaluation question(s) it helped answer. Limitations to each approach are identified. Table 2-1 summarizes the collection methods and the evaluation questions to which they will be applied. Appendix B provides a more detailed table relating the data collection methods to each evaluation question and sub-question.

Table 2-1: Summary of Data Collection Methods

Collection Method	Evaluation Question							
	1	2	3	4	5	6	7	8
National-level Surveys*	√	√	√	√	√	√	√	
Web Measures and Activity Data	√	√						
Interviews**	√		√	√	√	√	√	√
Focus Groups			√	√	√	√	√	√
Document Review***	√		√	√	√	√	√	√

* Includes the 2004 Customer Satisfaction Survey and the 2007/2008 Behavior Survey.
** Includes the interviews conducted in 2004 by Industrial Economics Inc. and the interviews conducted by Abt Associates in 2008.
*** Includes center-specific documents and survey results, select case studies, and P2Rx documents.

The information collection activities above are governed by requirements under the Paperwork Reduction Act (PRA). Under PRA, EPA's information collection is limited to nine or fewer non-federal individuals or entities. This evaluation was conducted in compliance with the PRA and other OMB rules on information collection requests.

2.1.1 National-level Surveys

Abt Associates used data from two individual surveys:
- Behavior Survey conducted by P2Rx in 2007/2008
- Customer Satisfaction Survey conducted by Weinreich Communications in 2004

Both of these surveys were conducted online, accessed by a link on each center's Web site. The 2007/2008 Behavior Survey (OMB Control #2020-0015) was conducted from October 15, 2007, until February 29, 2008. It was posted as a link on each center's Web site as well as administered to various live audiences in a hard-copy format. Some promotion was done through the centers' electronic mailing lists (listserves) to encourage people to participate in the survey. Surveys were logged to track how they were distributed, the number of people to whom the survey was distributed, and the characteristics of that group. These logs were consulted in the evaluation to provide information about the characteristics of certain subsets of respondents (See Section 2.2.1 for more information about survey distribution logs). Web respondents consisted of users of the center Web sites who chose to participate in the survey (i.e., by clicking on the survey link). Additional respondents included conference participants and center list serve subscribers, among others. Table 2-2 lists the respondents to the 2007/2008 Behavior Survey by center.

Table 2-2: 2007/2008 Behavior Survey Respondents by Center

Center	Respondents
NEWMOA	67
WRRC	34
GLRPPR	50
Zero Waste	234*
P2RIC	80
Peaks to Prairies	48
WRPPN	77
PPRC	69
P2Rx (p2rx.org)	10
Total	**669**

* Includes 207 surveys administered in hard copy

The 2004 Customer Satisfaction Survey had nearly 500 responses, mostly from state and local government and TAPs, with only 7 percent of respondents from industry. Similar to the 2007/2008 Behavior Survey, respondents consisted of users of the center Web sites who chose to participate in the survey (i.e., by clicking on the survey link). To address specific evaluation questions, the data were broken out by individual center and also by customer group (i.e., business versus government/TAP respondents, where possible).

The distinction between businesses/end users and TAPs/intermediate users is made in slightly different ways in the data sources used for this evaluation. Consistent with this distinction, the 2007/2008 Behavior Survey distinguishes between the two types of customers by how they use information, as determined in the first survey question:

Survey Question 1: Please select one option from the following list:
- *I primarily use [P2Rx/Center Name] to find environmental assistance information to apply to my own organization or facility.* [Type: Business]
- *I primarily use [P2Rx/Center Name] in my capacity as a provider of environmental assistance to others outside my organization.* [Type: TAPs]

This survey question and the distinction made therein represent one of the greatest strengths of the 2007/2008 Behavior Survey. Although the precise survey audience and respondent sample is uncertain, the customer types are distinguished in the way they have been defined by P2Rx and for this evaluation (i.e., by end users and intermediate users).

The 2004 Customer Satisfaction Survey conducted by Weinreich Communications divides the customer types differently. That survey asked respondents:

Please choose the category that best describes you: (select one)
- *State Government (not TAP)*
- *Technical Assistance Provider (TAP)*
- *Local Government (not TAP)*
- *Consultant, Vendor, Trade Group, etc.*
- *Federal Government (not TAP)*

- *Business/Industry*
- *Non-Governmental Organization (NGO)*
- *Academia (not TAP)*
- *Other*

This earlier Weinreich Communications survey distinguished between respondents identifying themselves as "Business/Industry," and all others. This distinction was made differently in the more recent 2007/2008 survey; therefore, results from the 2004 survey are presented in this report in terms of "business" respondents and "all others." Note that while the 2007/2008 survey allows respondents to identify themselves by the way they use P2RX information, the 2004 survey does not. Thus, we cannot make a direct comparison of responses across the two surveys divided by user type.

Both surveys used for this evaluation used a self-selected sample of respondents from a target population that is not defined, which precluded us from estimating the probability that the group of respondents represents the whole. This impacts the ways in which survey data can be used for purposes of the evaluation. Section 2.2, Data Analysis Methods, goes into more detail in this regard. For a full summary of the 2007/2008 Behavior Survey results, see Appendix C, and for center-specific Behavior Survey results, see Appendix D. For further analysis of the 2004 Customer Satisfaction Survey, see Appendix E.

2.1.2 Web Measures and Activity Data

P2Rx centers collect standard information to measure activities and Web site usage, which helps determine the extent to which different P2Rx services are used. The centers report general Web site use statistics as well as usage data on a number of specific P2Rx online resources. Twice a year, aggregate data for the entire P2Rx network are compiled and reported to EPA by the P2Rx Coordinator. Abt Associates examined data from 2005 to 2007 on client type; Activity Measures, i.e., types of assistance provided by centers, broken down by direct contact, newsletters, listserves, and meetings; and Web Measures, i.e., types of Web use by product (e.g., P2 libraries, topic hubs,[3] P2 programs directory, Rapid Response,[4] sector resources, P2 news, and other resources). Using this information, we examined use by different categories of users. We also used the information to help understand the level of demand for each type of assistance.

There are two primary limitations associated with using this information source for the evaluation. First, it is not possible to draw conclusions regarding the use of center resources as compared to the total population they serve, because the universe of Web users is unknown. Second, types of customers and their usage patterns are not differentiated enough to adequately answer evaluation question 2.

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[3] Topic Hubs™ are compilations of information on a particular topic. They were the first standardized product adopted by the centers.
[4] Rapid Response is on-line research assistance. Alternatively, some centers call this Help Desk or Ask Rudy.

2.1.3 Interviews

Two sets of interviews were used by Abt Associates for this analysis. First, Abt Associates conducted interviews with all eight P2Rx center directors, seven TAP representatives, and eight business representatives who use the P2Rx centers. The Evaluation Team invited the centers to provide Abt Associates will a list of contacts for this purpose. We selected nine business representatives and nine TAPs from the names provided based on geographic distribution, to attempt an even representation among the centers. WRPPN did not provide names of TAPs and business representatives because that center had already provided similar contacts for the focus groups (see Section 2.1.4). Due to time and scheduling constraints, we were able to interview eight business representatives and seven TAP representatives, as well as all eight of the P2Rx center directors.

The interview guide (see Appendix F) provides a basic script for the interviews, and was given to the participants ahead of time. Abt Associates scheduled interviews in advance and conducted them over the phone. We tape-recorded the interviews for quality assurance purposes; however, in order to encourage open and candid responses, individual interview responses and comments are not referenced or attributed to specific individuals in this evaluation report, nor are the names of the interview participants listed.

Abt Associates interviewed the following end-user/business representatives, including three from PPRC, two from GLRPPR, one from P2RIC, one from NEWMOA, and one from Peaks to Prairies:
- University environment, safety, and health (ES&H) director, who is responsible for compliance with EPA regulations and campus sustainability
- Large retail dry cleaner representative
- Pulp and paper mill representative
- Representative of a naval air station who serves as a training command, and provides hazardous and solid waste support, P2 support, etc.
- Semi-custom cabinet maker who produces 1,000 cabinets a day
- Maker of aerospace parts for commercial passenger or transport aircraft, with some military work
- Ski area and real estate developer
- Environmentally-sensitive jewelry maker

Abt Associates interviewed the following TAP representatives, including 2 from GLRPPR, 2 from P2RIC, 1 from Zero Waste, 1 from WRRC, 1 from NEWMOA:
- Four based in state TAPs
- Two based in university TAPs
- One based in a consulting organization that provides technical assistance

The second set of interviews was from an evaluation of the PPIN grants that Industrial Economics Inc. (IEc) conducted for EPA in 2004. While the 2004 evaluation did not directly address the questions in the current evaluation, Abt Associates gleaned additional information by reviewing the transcripts of the interviews, which were with EPA managers and project officers, P2Rx coordinators, P2Rx center contacts, and TAPs.

We summarized interview responses to present common themes and key observations. In addition, the generic logic model developed by Abt Associates was used during the interviews with each of the eight P2Rx center directors. It was discussed in detail in conjunction with the logic models that had been developed earlier by each center, to help determine which activities the center undertakes and what outputs it produces. We then developed a unique logic model for each center based on this discussion (see Section 3.1.1). Unique outcomes were not addressed as a part of this exercise.

2.1.4 Focus Groups

Abt Associates conducted focus groups at the Western Regional Pollution Prevention Conference in San Diego, California, in October 2007. Three focus groups were conducted, two with TAP representatives and one with business representatives. Abt Associates solicited the perspectives of each of these groups about P2Rx and their local centers. The goal of these focus groups was to solicit perspectives and opinions from each of these audiences on center offerings and effectiveness, and allow group interaction to generate information and identify considerations that would have been unlikely to emerge with individual interviews.

Each focus group had between five and six participants. Focus group participants were identified with the assistance of the conference organizers: Ed Gonzales (WRPPN) and Chris Wiley (PPRC). Although a list of the individual participants is not included in this report, a general description of the participants is as follows:

Business Representatives:
- New business-owner (water distribution company)
- Consultant whose business assists companies in implementing sustainable practices
- Food company employee who is involved in non-food product development
- Representative of a hazardous products and chemical database company who helps organizations comply with regulations and provides information
- Strategy and management consultant focused on sustainability

TAP Representatives:
- Five individuals based in state technical assistance programs
- Three individuals based in county technical assistance programs
- Two individuals based in local (city) technical assistance programs

Prior to the sessions, Abt Associates prepared a moderator's guide with a summary of the focus group's goals and objectives and a list of questions to be covered (see Appendix G). Sessions were facilitated by Abt Associates staff and were tape-recorded and transcribed.

2.1.5 Document Review

Based on the recommendation of three center staff on the Evaluation Team, Abt Associates conducted a review of grant reports to help identify center-specific documents that could be relevant to the evaluation. Each center publishes different documents and occasionally

conducts surveys that are not standardized across all centers. Abt Associates reviewed the grant reports submitted to EPA by each center for the calendar years 2005, 2006, and 2007. Based on what each center described in its report, Abt Associates identified additional documents that could support the evaluation, such as survey results (needs assessments and others), case studies, and possible contact names for interview subjects.

Abt Associates drafted a request to the centers describing the purpose of the information collection and listing the suggested documents to be provided by each center, which was reviewed by the evaluation team and then sent to each center contact via e-mail. Abt Associates received survey data from five centers, case studies from four centers, and interview contact information from all centers except WRPPN, which had already provided contact information for the focus groups.

The primary limitation of this data source is that information obtained from these documents only allows us to draw conclusions about the source center (i.e., results will not be generalizable).

In addition to center-specific documents, several national-level documents provided to Abt Associates were used to supply background information to the reviewers and add detail to the analysis. These documents include the 2007–2008 P2Rx Strategic Plan and the "Why P2Rx?" document. For a list of all documents consulted, please see Appendix H.

2.2 Data Analysis Methods

Abt Associates compiled and assessed a variety of information, both qualitative and quantitative in nature. For qualitative information obtained from interviews and focus groups, Abt Associates referred to its notes and interview tapes to summarize the information provided. For quantitative information obtained from on-line surveys, Abt Associates used a standard software package and data analysis and presentation techniques to summarize the results. The data was taken from the Survey Monkey Web site and downloaded for each site in CSV format. It was opened in Excel, and arranged onto one spreadsheet, removing answers to question 6 that were not consistent across all surveys. The data was then condensed so that responses to questions aimed at business and TAPs were taken together where possible (all except question 7). Also, the hard copy TAPs and business surveys were added to the dataset. Pivot tables were used to sum the scores for each question for TAPs and business, and then this sum was divided by the number of respondents in that category for that question, to obtain the final frequency number.

For a detailed explanation of Abt Associates' data analysis methods, please refer to "Evaluating the Effectiveness of EPA's Pollution Prevention Information Network (PPIN) Grant Program: Data Analysis Plan," April 1, 2008 (Appendix I). Abt Associates documented its quality assurance procedures in its Quality Assurance Project Plan, which was approved by Abt Associates, Industrial Economics, and EPA on April 11, 2008.

Abt Associates analyzed the data collected and reviewed in the context of two important limitations on the study. First, there is no representative sample of TAPs or end users present in

any of the primary or secondary data available for the study. The available survey results are based on a self-selected sample of those deciding to respond. The focus groups are small groups of informants, and the interviews are based on individuals selected by the centers, or center staff themselves. Second, and particularly pertaining to evaluation questions 5, 6, and 7, there is no strong design to isolate the true effects of P2Rx activities from other sources of information or influences on behavioral change. Given these factors, however, the information sources used for the evaluation taken as a whole did allow for a comprehensive and meaningful response to the evaluation questions.

In general, surveys are conducted using either probability samples or non-probability samples. In probability sampling, a sampling frame of all members or close to all members of the target population is created, and a random sample is drawn from the population. Part of this process involves defining the target population. Random sampling gives each member of the target population a known probability of selection, and this allows for the calculation of the standard errors.

Non-probability samples, on the other hand, often do not have a sampling frame of all members of the target population. Non-probability samples include quota samples, judgmental samples, purposive samples, and self-selected samples. Widely used opt-in Web surveys, such as the P2Rx 2007/2008 Behavior Survey, fall into the category of self-selected samples. There is not a random selection mechanism from a known target population in this case. Response rates are almost always unknown and are thought to generally be much lower than mail, telephone, or in-person survey response rates. Standard errors cannot be calculated for these types of samples, and so the information from these surveys may not be reliably representative of the universe. This is because respondents self-select and are only a very small proportion of people who use the Web site. Such surveys can be useful in some cases, but the survey results need to be qualified as only potentially applying to the individuals or business establishments that responded.

2.2.1 2007/20008 Behavior Survey Distribution Logs

Seven of the eight centers kept logs recording to whom they sent notification of the survey. Note that while the following reflects the population who were sent the survey, it is not known who responded. Responses to the survey were anonymous.

- NEWMOA distributed the survey link electronically to their Northeast Assistance and P2 Roundtable listserve two times, for a total of 176 contacts. This listserve is comprised of federal, state, and local assistance programs.

- WRRC distributed the survey link electronically to EPA Region 4 member states and TAPs. The survey was also attached to "Ask Rudy" responses.

- GLRPPR distributed the survey via e-mail to: users of GLRPPR Help Desk Librarian service (4); GLRPPR members, two times (548 each); DOD environmental coordinators in the Great Lakes region (185); and GLRPPR steering committee members (20). The predominant

recipients were GLRPPR members, with a total of 1,096 contacts made. The composition of this member group is not known.

- Zero Waste Network sent the survey electronically to 1,919 TAPs. In addition, they distributed 207 surveys in hard copy at workshop events, of which 77 were TAPs and 130 were businesses.

- P2RIC sent out 1,084 e-mails to various listserves at eleven times over the course of the survey period. Of these 1,084 e-mail recipients, they are able to determine that 87 clicked through to the survey itself.

- Peaks to Prairies sent the survey to 624 contacts, many of whom were contacted more than once. The recipients included Region 8 state P2 coordinators, Region 8 listserve, Homes Across America contacts, Montana Eco-Star award recipients, users of their help desk, recipients of their Green Parks Environmental Toolkit, participants on the Sustainability Workgroup listserve, participants on the Tribal P2 Workgroup listserve and to participants in the Parks Stewardship Network. Of these groups, the following is known 6 are TAPs, 38 are from state or local government, 10 are from the federal government, 51 are from universities, 9 are from the military, and 74 are from the private or non-profit sector. The remainder of recipients is of unknown type. It can be assumed that there was relatively high distribution to the private sector/end-user community based on the fact that the survey was sent to award recipients, users of the help desk, and other groups that likely have some representation from this group.

- WRPPN sent an e-mail notification of the survey to its regional listserve two times. This listserve has approximately 300 members of unknown type.

- PPRC sent 160 survey notifications to users, out of which about 120 were from city, county or state government agencies while 16 recipients were from utilities, 14 were from companies, 4 were from colleges or universities, 2 were from the Army, and 4 were from local school districts (40 total).

This log information provides information about who was notified of the survey, and can provide a general sense of which audiences may have a higher probability to take the survey. However, without knowing which of these entities actually did respond, the information cannot be used to determine bias. For example, while it would appear that the vast majority of recipients of notification of the survey were government entities or TAPs, it is unknown how many of these individuals took the survey as a result of being notified as opposed to those who accessed the survey on the Web site independently. The log information, however, could be used to examine individual response rates for the centers, as well as to learn about different distribution methods and target audiences for the various centers. As a method of characterizing respondents, the information on the survey itself that asks the category of respondents is very useful, but is independent of the log information.

3 Findings

This chapter presents the findings of this evaluation, discussing the primary and secondary data collected on the centers, technical assistance providers, and businesses according to the following general themes: center operation models, P2Rx information users, usefulness of P2Rx products, outreach to customers, attribution of outcomes, and performance measurement. The themes serve to consolidate and summarize the evaluation questions to enable a more cohesive organization for the analysis. Table 3-1 illustrates how the themes relate to the evaluation questions.

Table 3-1: Crosswalk of Report Sections and Themes with Evaluation Questions

Report Section/Theme	Relevant Evaluation Questions
3.1 Center Operation Models	Questions **1, 1a, 1b, 1c, 1d**
3.2 P2Rx Information Users	Questions **2, 2a**
3.3 Usefulness of P2Rx Products	Questions **3, 3a, 4, 4a**
3.4 Outreach to Customers	Questions **6, 6a, 7, 7a**
3.5 Attribution of Outcomes	Questions **5, 5a, 5b, 6b, 7b**
3.6 Performance Measurement	Questions **8, 8a, 8b**

An important distinction made throughout this evaluation and relevant to the findings is made between businesses, or end users, versus TAPs, or intermediate users. In this chapter, we use the term "business" to refer to any end user of P2Rx information. The term "TAP" is used to refer to any intermediate user who assists businesses in implementing P2.

In general, when the term "business" is used in this report, it is referring broadly to end users who may include academia, military, or other organizations that are responsible for their own environmental concerns. Ideally, audiences for P2Rx are best defined by how they use the information, regardless of what type of organization they are in (i.e., business, government, etc.).

3.1 Center Operation Models

Evaluation Question 1: What model(s) do the P2Rx centers use to encourage exploration and adoption of P2 practices?

    a) How are centers currently operating and what model(s) are they using to disseminate information?

    b) Which of the centers' model(s) is most efficient in information sharing and/or delivery?

    c) When comparing among centers, what opportunities for centers' information delivery to become more efficient are observed?

    d) What opportunities are there for centers to become more efficient in information delivery by sharing tasks?

The centers vary extensively in their structure, location, staffing, resources, activity emphasis, and customer base as described in the following analysis, and their location and organization affect the resources each center is able to leverage (see Appendix A for individual center logic models with variations among the centers highlighted). An additional distinction is in the use of PPIN funds as a sole versus a contributing source of funding for centers. All centers have some sort of external stakeholder or advisory group with whom they communicate. With understandable variability among them, P2Rx clearly enables P2 programs to enhance their individual capacity by sharing and leveraging the resources and knowledge of the entire P2Rx network. The national scope of the network, and the close working relationship among the centers, facilitates this. Efficiencies can be realized by having the best qualified center perform particular tasks. For example, case study collections, the Programs Directory, and some of the Web programming functions are well-suited to being centralized. However, there is overhead associated with this as well, in terms of time spent on conference calls or performing administrative activities. For all of these reasons, an interactive and dynamic network does appear to strengthen the abilities of any single organization.

The general mode of information dissemination for the centers is to cast a wide net to a broad audience, for example by conducting workshops, using the Web, or networking. The research or information they provide to TAPs allows the TAPs to be more efficient when they go out in the field. It was felt that the centers are better able to do in-depth research than are TAPs because center staff do not spend their time in the field. Efficiencies are already being gained through various shared or centralized activities. The case study database run by Zero Waste is considered effective in sharing a well-needed resource. Centralized IT support in certain areas and overall Web site maintenance is also effective, as well as the centralized management of the Programs Database. Developing IT platforms was cited as a good activity to centralize, as well as overall Web site maintenance, since some centers have stronger IT support than others and can help with this. Inefficiencies were cited, including the requirements for measuring the effectiveness of the centers and the committee-based management of P2Rx.

3.1.1 Center Structure and Staffing

Centers are situated in a variety of organizations. For example, NEWMOA is a non-profit interstate organization; WRRC is in a state regulatory agency; GLRPPR is co-located with a TAP on a university campus; Zero Waste has the resources of a university at its disposal and works closely with the Manufacturing Extension Partnership (MEP) due to proximity of their office space; P2RIC is part of a business development center at a university; Peaks to Prairies is located at a university extension service; WRPPN is housed with a university Business Environmental Program, which serves as the state P2 program/TAP; and PPRC is a stand-alone non-profit organization.

The location and organizational structure of each center affects the resources it is able to leverage. For example, WRRC has access to the resources of a 30-person staffed Pollution Prevention program located within a regulatory agency. Other centers can leverage a co-located TAP or a university. However, for a center like Peaks to Prairies there is not a lot of overlap between what the center does and what their larger organization does, and their activities are isolated from the rest of the university, so it is difficult to leverage resources.

Centers use and rely on PPIN funding in a variety of ways. Some leverage state contracts with PPIN funds, some rely on other sources for the majority of their funding (federal and non-federal), others are primarily funded by PPIN. Additional funding may come from state or local sources (rare), in-kind match from various sources, fees from training or other events, or an array of other sources. (see individual logic models in Appendix A).

Some centers have many staff; some have only one or two. All of the centers have some combination of a steering committee, advisory board, board of directors, and/or roundtable comprised of states and/or a variety of stakeholders with whom they communicate periodically. Centers can also be characterized by the extent to which they work with end users. For example, NEWMOA doesn't target end users at all, while Peaks to Prairies, PPRC and Zero Waste actively do. Other centers fall somewhere in between.

P2RIC uses a graduate student staff model. These students are trained to do content development, which was previously done by a professional librarian. This staff model brings in a lot of energetic and talented people; however, they mostly have academic knowledge and lack field experience. This limits their ability to engage with businesses to achieve and measure outcomes. Higher-level professional skills are needed to reach businesses, but P2RIC's funding will not support the hiring of professionals. However, IT students have made valuable contributions to P2RIC's online resources, and use of student IT workers allows P2RIC to forego the sudden loss of capacity and institutional knowledge that can occur with the loss of a full time employee. Overall, students provide very cost-effective work for P2RIC. Other centers may use similar student staff models as well, but this was not mentioned in other interviews.

Each center has its own "personality." A single commenter said that the quality of the centers varies quite a bit, as does their utilization, and that it is difficult to support and defend the existence of eight centers. However, this does not seem to be a widely held sentiment. In fact, others believe the work of each individual center is important. As Table 3-2 below indicates, the

centers do indeed vary in terms of their utilization and areas of emphasis. It was also discussed in the center interviews that certain centers have specific technical capabilities in P2 technology or other areas. Others focus on information or program management. Three centers have particularly strong Web expertise.

Table 3-2: Selected Web and Activity Measures for Each Center: First Half 2007

Activity/Web Measure	NEWMOA	WRRC	GLRPPR	Zero Waste	P2RIC	Peaks	WRPPN	PPRC
Technical Assistance Contacts	20	38	325	42	76	1,173	397	163
Newsletters Distributed	1,400	0	1,025	0	452	0	0	2,827
Listserve Subscribers	1,734	350	1,358	48	1,381	232	275	0
Number Meetings Organized	2	0	6	2	7	6	1	38
Web User Sessions	96,192	87,798*	239,841	40,165**	54,129	85,835	149,530	0**

* WRRC also received 2,076,727 hits to its library during this period
** Incomplete Web Measures information due to technical problems
Source: Semi-annual Web and Activity Measures report from the first half of 2007.

It was noted in the 2004 interviews conducted by IEc as well as in "Why P2Rx?," that four of the centers: NEWMOA, WRRC, GLRPPR, and PPRC were already established entities before the P2Rx network was developed and were created by state agencies explicitly to support state agency P2 programs. At the time of the 2004 interviews it seemed that having been established prior to the network provided both benefits and difficulties for those centers; their established infrastructure was a good launching point for the network, however their existing infrastructure allowed less flexibility in changing the direction of their focus.

One center felt strongly that the way they were established prior to P2Rx, i.e., using TAPs to provide information and collect data from businesses, is most efficient for them. A change in that structure would seriously jeopardize the way pollution prevention is addressed in their region. Another center similarly said that their position within their larger organization makes it very difficult to change their focus to start assisting businesses directly.

A business representative suggested that some centers may work more closely with the state in which they are located than they do with other states in their region. In general, larger, better resourced, centers may have better capacity to cover more of their geographic region. The evaluation did not examine the issue of geographic reach of the centers. It is a policy decision whether the centers are (1) expected to service each state in their region equally, (2) focus on serving the most pressing environmental need, or (3) go beyond the region to become centers of excellence for the nation.

3.1.2 Center Information Dissemination Activities

Activities vary from one center to another. Most centers seem to aim to cast a wide net and reach as many entities as possible, whether by holding conferences or placing content on a Web site, as opposed to providing one-on-one assistance. Core center activities include: creating and conducting trainings, participating in networking, providing technical assistance, design and maintaining Web sites, and collecting and producing of information resources. The

centers accomplish these activities in different ways, and emphasize them to different degrees. The logic models in Appendix A illustrate the similarities and differences among centers with respect to information dissemination activities, specifically inputs, activities, outputs and customers served. The following findings are arranged consistent with the activities in the logic models.

Evaluation and Measurement. Most centers spend a lot of time on performance measurement. It was expressed by every center that measuring results, and attributing results to their activities, is difficult or impossible. Centers currently accomplish measurement in various ways, which are discussed in greater detail in Section 3.6.

Trainings and Seminars. All centers have a very active role in organizing, conducting, and participating in trainings and seminars. This is a key activity to enable them to reach large audiences to disseminate information. Centers such as PPRC and WRPPN have been increasingly working together and now hold an annual joint conference. This provides greater efficiency in being able to share responsibility for logistics, registration, and other overhead functions associated with putting on a conference.

Networking is an important activity for all the centers. An example was offered of a document that was developed in Alaska, re-published by a center, and then given to someone in Arizona. Such a transfer of information would not be likely to happen without the network. In other cases, networking with other information providers can broaden the reach of the centers. For example, a staffer from the Great Lakes National Program Office (GLNPO) reported how GLRPPR has worked with GLNPO on multiple projects to promote their activities. Networking is also used as a form of needs assessment, gathering information about needs from stakeholders. The ability to use the P2Rx infrastructure and network to disseminate results nationally was widely cited as very useful and effective.

Technical Assistance. Rapid Response is used to varying degrees across P2Rx, and is also referred to as "Ask Rudy" and "Help Desk" by certain centers. It is defined broadly by some as any request for assistance, be it from a business or a TAP, and can vary from a quick phone number lookup to a technical question that requires research. Technical Assistance Requests to the centers vary widely; as shown in Table 3-2, NEWMOA, WRRC, and Zero Waste received fewer than 50 Technical Assistance Requests, while GLRPPR and WRPPN received over 300, and Peaks to Prairies received 1,173 requests during the first half of 2007. An observation was made that often helping businesses via Rapid Response takes less time, while helping a TAP may take longer and be more complex. Assisting TAPs is more complicated, further removed from the final result, and, ultimately, more difficult to measure. However, assisting TAPs in helping multiple businesses can potentially have a greater impact than helping a single business.

Web site Maintenance. Some centers are trying newer methods of communicating and disseminating information using the latest Web technology. For example, GLRPPR has a Web Blog open to everyone that facilitates networking and information sharing in an interactive electronic format, and WRRC is interested in creating video content for posting on YouTube. Other centers indicated interest in novel Web networking concepts, such as YouTube videos or

Face Book-type social networking, which would allow people to connect to the type of information they are most interested in. Admittedly, some of these pursuits would involve a learning curve for less Web-savvy users, but these approaches will allow P2Rx to expand their audience and utilize more adaptable, interactive technology. Developing IT platforms was also cited as a good activity to centralize, as well as overall Web site maintenance, since some centers have stronger IT support than others and can help with this.

Information Resources and Content. Five of the centers develop and write up case studies of successful P2 implementation as part of their activities. Case studies were mentioned by six centers as being critical pieces of information for training and other assistance. Specifically, P2RIC and WRRC emphasized the usefulness of case studies and mentioned the efficiency of partnering with Zero Waste to build their database and using the database as a repository for this information. Zero Waste's P2Planner[5] is being requested by other states that have P2 planning programs, for which they can easily adapt it.

Individual topic hubs[6] are led by certain centers, with others contributing to those efforts and linking to the final product. This seems to centralize the work in a way that allows all to benefit. P2RIC does not do much with topic hubs besides updating them with new information, and WRRC only does link checking to keep the topic hubs alive, due to lack of funds. Three centers noted that while there was benefit to developing shared topic hubs, there was also a huge resource investment involved. One center commented that the topic hubs are geared to informing the state TAPs, rather than helping industry. Indeed, the topic hubs were one of the first products to be adopted by the centers, and were intended as a primer for TAPs to familiarize themselves with a particular sector. One commenter said that there is too much background information in the topic hubs to be useful to industrial users, who just want "the answer." Development of a derivative product from the topic hubs has been considered, eliminating the background information and repackaging the core links to make it more accessible to businesses. At this time there may also be a liability associated with the current structure of the topic hubs in terms of customers being able to find information, as the hubs are not designed well for Google-type architecture. Based on the observations of the Abt Evaluation Team, P2Rx resources such as case studies, fact sheets, and best references pages, are frequently returned on the first page of a Google search; while the topic hubs often do not appear on the first page unless the key words in the title are included in the search.

NEWMOA described their service as allowing TAPs to spend more time in the field, and less time looking for information. The center "arms" TAPs with selected and prepackaged information to improve their efficiency. According to the center representative, it is fair to say that a similar sentiment would be shared by many of the other centers.

Marketing is typically not done as a discrete activity, but rather is done by distributing materials, getting the word out at workshops or leveraging partners to do this. Participants in the 2004 IEc interviews expressed the need to do more marketing of P2Rx's services and resources. Although marketing was mentioned in 2004 as an activity that should become a priority, it

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[5] P2 Planner is a tool for preparing a pollution prevention plan.
[6] Topic Hubs are compilations of information on a particular topic. They were the first product adopted by the centers.

seems from the current evaluation that marketing has not been prioritized, either by the centers or by EPA.

3.1.3 Opportunities for Efficiency

Efficiencies[7] that were cited ranged from information sharing among centers to administrative matters. For example, because PPRC is an independent non-profit organization, they are not restricted by government bureaucracy and are able to respond more quickly to changing needs and to pursue what they feel is important. NEWMOA also felt that their internal structure, specifically their well-defined decision-making structure, works well for them. They have a clear understanding of who their members are, whom they are serving, how to get input from their members (who are also their customers). The state regulatory programs that comprise their members are best positioned to identify local priorities. NEWMOA's longstanding and regular communication with their states about priorities, sector foci, etc. enhances their capability as a center.

Content sharing among centers takes place on certain specific fronts, and was suggested in areas. GLRPPR provides a news service for multiple centers, and will be adding more. It is a relatively simple programming task to enable all centers to access this resource. GLRPPR felt that it is not much more difficult to do this for multiple centers once they were doing it for some. However, another participant commented that because EPA is counting Web user sessions at each center, there may be resistance to sharing documents with other sites. Several centers seemed to see value in having a centralized library repository.

One center commented that P2Rx has not yet figured out a good way to utilize each center's individual strengths and play to those strengths, such as Web development or content development. Each center seems to want to maintain their own expertise and autonomy, but services may be more economically provided if centralized. Two participants observed reluctance among the centers to give a particular center a lot of responsibility for an activity because it might compromise another center's autonomy and control.

Four centers (WRRC, P2RIC, Peaks to Prairies, and Zero Waste) commented that the Case Study database run by Zero Waste is an example of effective sharing of information and development of a well-needed resource. Commenters on the P2 Programs database appreciated that separate databases no longer needed to be maintained and that programming and maintenance was all being coordinated nationally. Work is currently being done by GLRPPR and others to centralize the Web programming for topic hubs, which are largely considered to be P2Rx's primary informational product.

Two P2Rx activities were highlighted as being particularly inefficient: administration of the PPIN grant, and fulfilling measurement requirements. One center noted that the administration of the PPIN grant was very burdensome, and two centers identified inefficiencies with the timing of the PPIN grant process. These two centers noted that the one-year PPIN funding cycle makes it

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[7] Efficiency in the context of this report is based on informants' or the evaluators' judgment that a particular strategy could reach more people for the same money. Quantification of output per unit of cost were not conducted.

difficult to do longer-term projects. Additionally, getting funding under PPIN usually takes 6–8 months and could take as long as a year. If people identify a deeper need that requires some long-term work, it is frustrating because then centers feel they cannot respond quickly. There is a purely administrative delay between identifying need and being able to produce something, and that impacts efficiency. While this is not a function of intrinsic center operations, it is an external factor that impacts the centers' ability to operate at full effectiveness. Additionally, every center felt that the requirements for measuring the effectiveness of the centers were particularly inefficient. Centers spend a lot of time and resources fulfilling measurement requirements, and see very little benefit from them. The centers understand the importance of measurement, but the current measures they are required to collect are burdensome (see Section 3.6 for more about performance measurement).

PPRC sees inefficiencies in not being a part of a larger organization through which they can leverage resources and absorb costs, e.g., having an IT department when the server goes down. It also takes a great deal of resources and time for PPRC to procure funding because of their non-profit status. Peaks to Prairies also identified inefficiencies in their organization, since they are very reliant on PPIN funding and lack the ability to leverage other funds that many other centers have. Although Peaks to Prairies is located within a university, they are isolated in terms of their activities and have difficulty capitalizing on university resources.

One center commented that there are things for which a decentralized approach is best, and others for which it is not. For example, for something like the Programs Directory, it is more efficient to divide up the task of gathering information about programs within each region. At the same time, centralizing the development of the programming code for this project was most efficient. Similarly, something like updating code for topic hubs can efficiently be done by a single center with IT expertise. Another point of view was expressed on this subject regarding the inefficiency of committee-based or "majority rules" type management. Two participants expressed concern that the network spends a lot of managerial time coordinating with other centers, and this is not always value added. On the other side of that, there was a comment that it is worthwhile to have eight sets of eyes looking for new technical content, or to look at a sector as a whole to see needs and trends and work together to address them.

Business View of Centers

Business representatives initiated their relationship with their local P2Rx center in a variety of ways, including finding the center on the Web either from a direct link (e.g., from the Montana State University Web site) or when doing Internet research; receiving a business card for the center during an inspection; or meeting a staff member at an industry event. One business representative noted that he accesses center information through the Web site and listserve.

Business representatives reported receiving numerous and varying services from their P2Rx center, including communication advice, promotion for events, and technical assistance; training sessions (waste reduction, lean manufacturing, general topics); and responses to phone calls requesting P2 information. Respondents noted that the center was helpful in compiling requested information.

Business representatives have used P2Rx center services for a variety of purposes and on a range of topics. One respondent has mostly worked with the center on byproduct synergy (industrial waste exchange). Another participant noted that the center has responded to multiple phone calls to provide information on chemical substitutes. Another business representative has been working with the center extensively, receiving help with its Lean Environmental Pilot Grant, four week-long events involving value stream mapping, lean tools, kaizen (improvement) events, and spray painting training (the center has particular technical expertise with spray coating). This representative noted that the center seems to serve as a consultant to the business.

Focus group participants were attending a center-sponsored conference, but were generally unfamiliar with the center Web sites. They indicated that they had used the Web sites peripherally or had found the sites in relation to the conference.

TAP View of Centers

In general, TAP comments suggested that they understand the purpose of the centers to be collecting, developing, and distributing information, as well as providing opportunities for networking. Most TAPs agreed that the centers serve TAPs better than they serve businesses. One TAP commented that because of their structure, the centers are better equipped and more able to do in-depth research and spend more time on case studies because they are not out in the field with customers.

TAPs indicated particularly close and effective relationships with Zero Waste and PPRC. One mentioned that because Thomas Vinson of Zero Waste had previously worked for the Texas state TAP, he had a particularly good understanding of the role of TAPs and ran his center in order to complement their work. One TAP said that although she was not in NEWMOA's region, she had worked closely with them because of their expertise in mercury issues.

3.2 P2Rx Information Users

> **Evaluation Question 2: What groups/types of customers access P2Rx information?**
> a) *How do the customers vary according to method of outreach by the centers?*
> - *Via the Web site*
> - *Via TAPs*
> - *Via direct contact (e.g., telephone, correspondence, or other communication)*
> - *Via P2Rx workshops, trainings, and regional meetings*

The P2Rx centers fill three main roles for businesses: (1) networkers who connect them with people or services that can help them; (2) information providers who answer questions or offering written materials in person or from the Web; and (3) event sponsors who provide training, conferences, and other forums. In general, the preference among business representatives was to receive information by e-mail and the Web, and also through in-person events.

In select cases, centers provide on-site technical assistance because they possessed specialized expertise. In one instance, a company was seeking regulatory compliance information rather than P2 information, but because they were highly satisfied with what they received they plan to use the center services again for other things. Some states, including Texas and Washington, have requirements to prepare P2 Plans so companies in those states are more highly motivated to seek out the assistance of the P2Rx center.

> *Both businesses and TAPs value the networking opportunities provided by the P2Rx centers.*

TAPs also valued the networking opportunities provided by the P2Rx centers, such as roundtables and conferences. The information resources they use and prefer depends primarily on the type of assistance program for which they work, which determines the type of audience they assist. State TAPs, who tend to work with larger businesses and industry, tended to prefer the topic hubs, while both state and local TAPs found case studies useful, particularly when they were of local or regional businesses. TAPs varied greatly in the ways in which they prefer to receive information; some prefer face-to-face contact through conferences or seminars, some would like information via e-mail or listserve, and some prefer to search for information themselves by browsing trusted sources or simply using a general search engine.

Overall, there are several mechanisms P2Rx uses to try to understand what types of customers access P2Rx information, and how they vary according to the method of outreach. In summary, through interviews we learned that businesses access P2Rx information primarily by the Web site, direct contact, or training sessions. Data available from Activity Measures show listserves and newsletters going out to the largest number of customers, as compared to meetings and direct contact. Information on the identity of these customers is kept by some centers, but is not characterized across the network. The same is true for Activity Measures which shows number of meetings and number of attendees at meetings. Web measures do not capture the type of user, but do show a significant increase in usage over the years. 2007/2008 Behavior Survey data showed what types of users were using the P2Rx Web sites, and how they were using

them. Activity Measures show that the majority of customers for direct contact are from government, but the data shows a declining percentage of requests from government entities, and an increasing percentage of business and industry requests. However, the 2007/2008 Behavior Survey shows more than twice as many TAPs using the P2Rx Web sites than businesses. Overall, this information is inconclusive in responding to the evaluation question.

3.2.1 Types/Groups of Customers

Users of P2Rx seem to vary widely, and the universe is not well defined. For example, WRRC commented that they have millions of user sessions each year and do not know who these users are. Most of the information available is anecdotal, based on conference attendance and requests for information.

The 2007/2008 Behavior Survey results give an indication of who might use the Web sites, based on who chose to respond to the survey. Table 3-3 shows the types of organizations from which survey respondents came, divided into business and TAP user types. Note that respondents were allowed to choose more than one response, so the numbers in the table will not add up to 100%. The total number of responses to this question is 275 for business, 281 for TAPs, and 556 total. Among business respondents, manufacturing was the leading type of organization at 41% of respondents, while among TAPs, state and local government were the leaders at 35% and 28%, respectively.

Table 3-3: Type of Organization (% of responses)

Type of Organization	Business	TAPs	Total
Federal government	11%	9%	10%
State government	12%	35%	24%
Local government	14%	28%	21%
Manufacturing	41%	5%	22%
Service industry	12%	6%	9%
Educational institution	6%	11%	8%
Nonprofit organization	5%	11%	8%
Wastewater treatment industry	4%	7%	6%
Other	13%	33%	23%

Source: 2007/2008 Behavior Survey

Other types of customers identified by centers during interviews included:
- International organizations, such as Baja California Roundtable and Canadian groups
- Local governments implementing P2 and doing technical assistance
- University representatives, government site personnel, utilities, or other industry as end users
- EPA regional staff

P2RIC commented that they are increasingly seeing customers who are not TAPs (e.g., institutional end users such as universities, businesses referred through the Green Building Council or business development centers, and manufacturers referred through the MEP).

Businesses

Business respondents indicated a variety of preferences for the types of products they find useful. Some businesses prefer to access information via the Web sites and listserves, while others have relied on direct interaction or on site assistance and training. Other representatives mentioned webinars, emails, and print materials as useful P2Rx products, although preferences varied. Several pointed to networking opportunities, such as conferences, meetings, or byproduct synergy groups as the most useful functions of the centers.

Table 3-4 summarizes specific ways that business center representatives interviewed use P2Rx centers. These businesses were selected by the centers and as such, tended to have been the recipients of direct technical assistance. They may not be representative of most businesses.

Table 3-4: Uses of P2Rx Centers by Interviewed Business Representatives

Business Representative	Uses of P2Rx Center
University ES&H Director	Networking, technical assistance, promotion of local and national events, best practices, audit information
Naval Air Station	Information on chemicals and MilSpec, networking opportunities, analytical tools, case studies, success stories
Cabinet Maker	Participant in byproduct synergy project, direct contact
Aerospace Parts Supplier	Event promotion, direct technical assistance
Ski Area Developer	Regulatory compliance assistance for Spill Prevention, Control, and Countermeasure Rule.
Jewelry Maker	Direct technical assistance, topic hubs, vendor selection information

Focus group participants from the business community used the P2Rx center in various ways, including as a portal to start a search, to find case studies and success stories, and to find out about conferences and networking opportunities. They felt that the centers are not looked at as part of EPA, and so are more trusted because a business can ask a question of the centers without fear of inspection or fines.

Technical Assistance Providers

TAP participants in our interviews were mostly from state assistance programs, and all had at least some familiarity with their local center or with P2Rx as a whole. These participants also primarily worked with larger businesses or with entire industries, rather than with small businesses. Differing from the interviewees, the TAPs who participated in our focus groups were split—about half of the participants were from state programs, and half were from local or county programs. The state TAPs who participated in the focus groups tended to work more with larger, industrial businesses, while the local TAPs worked primarily with small businesses.

3.2.2 Outreach Methods

Of the four main types of assistance activities for which data were available, listserves and newsletters consistently reached the greatest number of clients, followed by meetings, with direct contact reaching the fewest clients. Figure 3-1 below illustrates the data available from Web and Activity Measures for January 2006 to June 2007. The data over time indicates that distribution of newsletters has grown steadily since January 2006, while meeting attendance declined slightly. Direct contact with clients was steady over 2006, but jumped by almost 1,000 clients in the first half of 2007. This increase is partially attributable Peaks to Prairies, who contributed 1,173 of the total 2,234 direct contacts in the first half of 2007 due to a change in their reporting practices.

Figure 3-1: P2Rx Centers' Clients Served by Type of Assistance

Types of Assistance Provided, January 2007 - June 2006
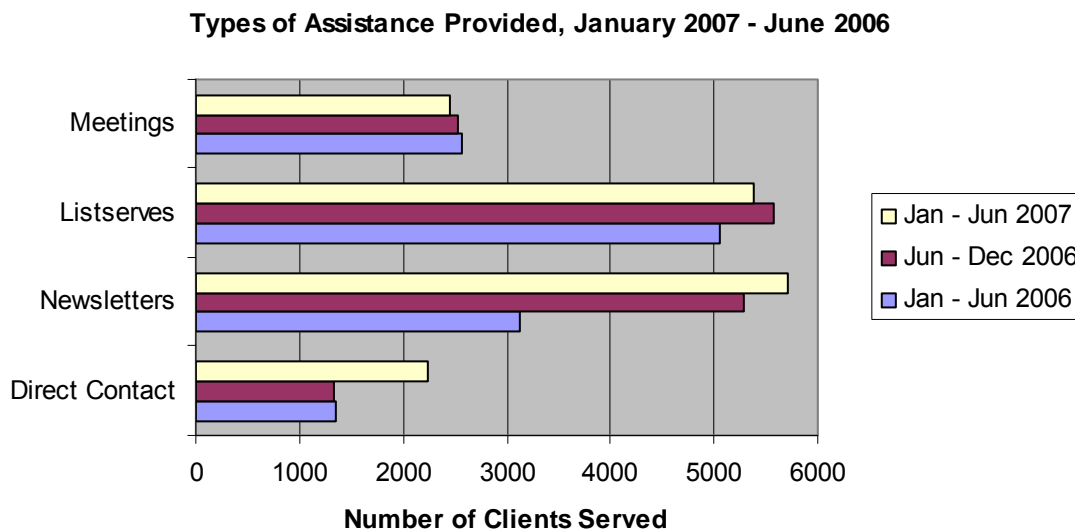
The remainder of this section discusses customer access to various outreach methods, including Web sites, TAPs, direct contact, and workshops, trainings, and regional meetings.

Via Web Site

In the 2007/2008 Behavior Survey, businesses were asked, "How did you utilize the [P2Rx] website(s)? (Check all that apply.)" Responses are summarized in Table 3-5. Over half of business respondents to the survey indicated that they had attended a training, workshop, or conference, or had reviewed Topic Hub information.

Table 3-5: Business Utilization of P2Rx Web Sites

Use	Business
Attended a training, workshop, or conference promoted by a P2Rx Center	55%
Reviewed Topic Hub information (or other P2Rx website information)	51%
Asked for pollution prevention technical assistance	12%
Contacted a technical assistance provider	10%
Requested additional resources from a P2Rx Center	9%
Other (please specify)	14%
Number of responses	*203*

*Note that since more than one answer could be chosen, the numbers will not add up to 100%.
Source: 2007/2008 Behavior Survey

Note that this survey asked only how users were using the *Web sites* to reach a TAP, request assistance, or attend a training, so was not able to fully answer the evaluation question.
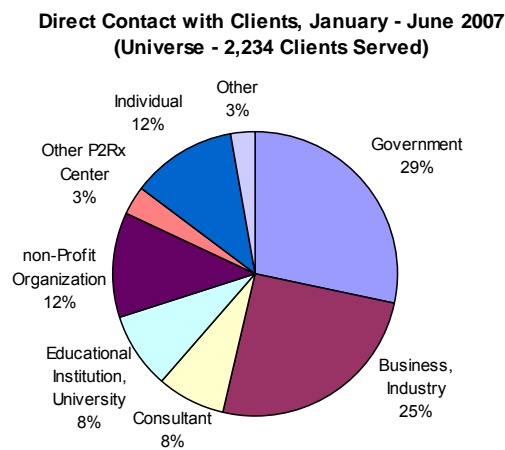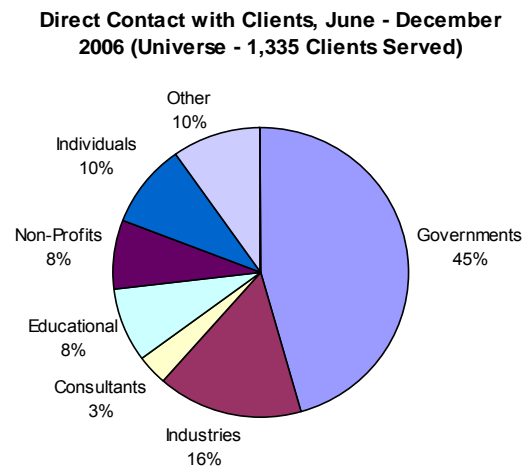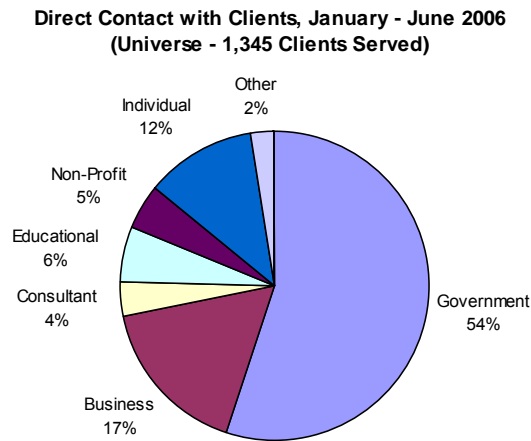
Web Measures data shows a quadrupling of total combined usage of the P2Rx Web sites over the past 4.5 years – from 637,000 in 2002 to 2.8 million by the end of 2006. Examining the specific resources that are used on the Web, libraries consistently had the vast majority of user sessions in all three six-month periods of Web Measures data analyzed. In fact, the number of user sessions for the library is approximately an order of magnitude greater than any other resource during each of the six-month periods from January 2006 to June 2007. A large number of these sessions are the result of hits via a search engine and not through the Center Web site. Sector Resources were typically the second-most accessed Web resource, followed by Topic Hubs, News and other resources not necessarily in that order in all years or for all centers. Although they are most frequently used, the libraries do not receive the highest usefulness ratings in either the 2004 or 2007/2008 surveys (see Table 3-8). This is possibly due to the fact that many of the library user sessions are the result of search engine links, and users may not be aware that the resource they use comes from the library.

As noted in the P2Rx Administrative Documents, "It is recognized that each regional information center is unique in terms of audience served, maturity of program, information model, and a number of other factors. These differences make direct comparison of centers based solely or primarily on their Web site statistics of questionable value." At this time it is not possible to definitively answer "Who uses the P2Rx centers?" relative to the center Web sites. Without the use of more advanced tracking tools such as identifying questions upon entry to the Web site, or registration, the Web site user community is unknown. WRRC's Web use logs indicate that 20-30 percent of users have their center Web site bookmarked, rather than coming from a link or a search using Google or another search engine. Also, there are very few Google referrals to the center home page; most customers are linked directly to content pages from Google.

Registration for Web site access can be a useful source of information about a center's Web site users, but may be an obstacle to attracting users as well. One center Director commented that if a Web site can fulfill a compelling need for services that businesses want, businesses may use the site even if they are being asked to register. If such a requirement does not exist,

the center can offer "some identified business need" to encourage registration, such as information on or assistance with general regulatory compliance, pretreatment requirements for P2, or area source rules for small businesses. Non-regulatory motives may include a reduction in insurance premiums or the desire to reduce one's carbon "footprint." For certain, if the center sees a new regulation coming, they can safely assume that companies will need help.

Via TAPs

TAP respondents to the 2007/2008 Behavior Survey used the P2Rx Web site to provide their clients with training, workshop, or conference information, or to provide other technical assistance or Topic Hub information. TAPs were asked, "What information did you use to improve or influence your clients' understanding of environmental practices to reduce pollution? (Check all that apply.)" The responses are summarized in Table 3-6.

Table 3-6: TAP Utilization of P2Rx Web site

Information Used	% of TAPs
Provided training, workshop, and/or conference information	59%
Provided information on technical assistance providers	48%
Provided Topic Hub information	38%
Provided vendor information	24%
Other pollution prevention technical assistance. If so, please specify.	57%
Number of responses	*208*

*Note that since more than one answer could be chosen, the numbers will not add up to 100%.
Source: 2007/2008 Behavior Survey

Again, note that the survey asked only how users were using the *Web sites* to reach a TAP, request assistance, or attend a training, so was not able to fully answer the evaluation question.

Two TAPs reported having worked with a center outside of their own regions because of that center's expertise in a particular area. These TAPs both indicated that they worked with their own centers almost exclusively through their regional roundtables; however, they had used information resources from other centers because of those centers' specific expertise or focus. One TAP indicated that she does not go straight to her own center for information; rather, she begins her search at the main P2Rx page, navigates to the topic hub in which she is interested, and then contacts the center responsible for creating that topic hub for more information and help. Many TAPs in both the interviews and focus groups indicated that they tend not to distinguish between the resources of their own regional center and those of the entire P2Rx network, although a few work only with their own regional center and never utilize the rest of P2Rx.

Via Direct Contact
Information is available from the semi-annual Activity Measures that quantifies or characterizes the recipients of direct technical assistance from the centers. Figure 3-2 below shows the distribution of direct contacts with the centers by type of institution during 2006 and the first half of 2007. The majority of customers are from government, but the data shows a declining percentage of requests from government entities, and an increasing percentage of business and industry requests. It is interesting to note that the jump in business requests in the first half of 2007 was largely attributable to Peaks to Prairies, accounting for 429 of the total 562 "Business, Industry" clients, or 76 percent of requests. This was due to the fact that prior to 2007, the Peaks to Prairies reports had not included technical assistance inquiries fielded by the center Director, but only by the staff.

Figure 3-2: P2Rx Centers' Direct Contact with Clients, January 2006 – June 2007

**Direct Contact with Clients, January - June 2006
(Universe - 1,345 Clients Served)**

- Other 2%
- Individual 12%
- Non-Profit 5%
- Educational 6%
- Consultant 4%
- Business 17%
- Government 54%

**Direct Contact with Clients, June - December
2006 (Universe - 1,335 Clients Served)**

- Other 10%
- Individuals 10%
- Non-Profits 8%
- Educational 8%
- Consultants 3%
- Industries 16%
- Governments 45%

**Direct Contact with Clients, January - June 2007
(Universe - 2,234 Clients Served)**

- Other 3%
- Individual 12%
- Other P2Rx Center 3%
- non-Profit Organization 12%
- Educational Institution, University 8%
- Consultant 8%
- Business, Industry 25%
- Government 29%

*From Activity and Web Measures, 1st Half 2006, 2nd Half 2006, 1st Half 2007.

Via Workshops, Trainings, and Regional Meetings

The number of people reached through meetings and workshops is tracked in the semi-annual activity measures, but their identities are not tracked. The following table and figure display the known information about the number of customers reached through workshops, trainings, and meetings.

Table 3-7: Meetings and Workshops Organized by P2Rx Centers

	1st Half 2006	2nd Half 2006	1st Half 2007
Number Meetings Organized	34	41	61
Attendees at Meetings	716	1084	811

Source: Activity Measures

Figure 3-3: Meetings and Workshops Organized by P2Rx Centers
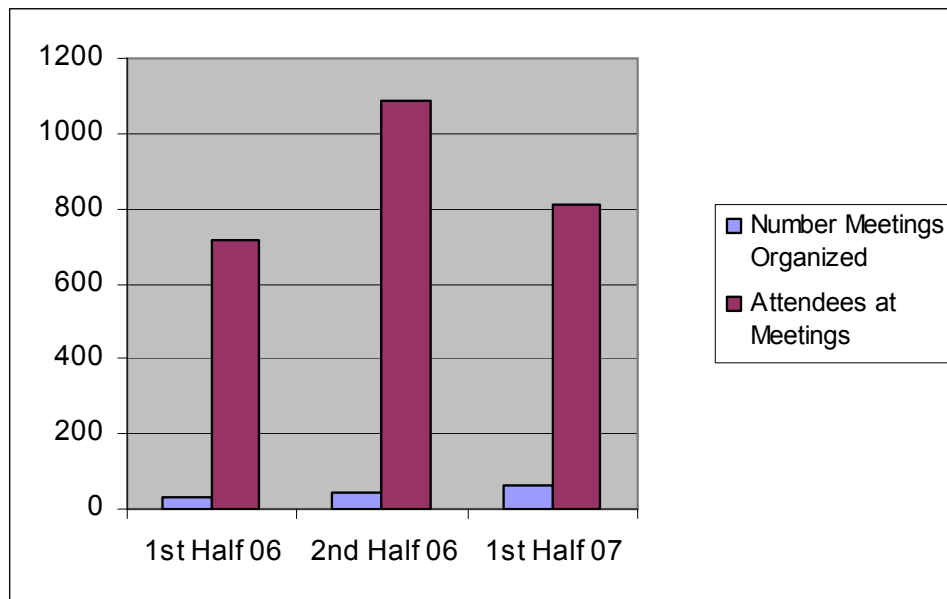
Source: Activity Measures

3.3 Usefulness of P2Rx Products

> **Evaluation Question 3: What products, services, and content do businesses need to make a decision/consider the adoption of P2 practices?**
> a) Are the centers providing the right products, services, and content to businesses to promote the adoption of P2 practices?
>
> **Evaluation Question 4: What products, services, and content do TAPs need to promote businesses' adoption of P2 practices?**
> a) Are the centers providing the right products, services, and content to TAPs to promote the adoption of P2 practices by businesses?

Much of the information provided by interviewees and focus groups addressed content more than services from P2Rx. On the question of products and services, the response from business and TAPs during interviews was overwhelmingly positive, but not so from focus group participants.

Businesses expressed three main priorities in their information needs:

Businesses and TAPs emphasize a need for up-to-date content and cost saving information.

- Up to date technical content that is easy to find on the Web using search engines and is organized by process or topic in addition to by sector
- Information on cost of alternatives, viable substitutes, product-specific vendor information, military prohibitions, and case studies and success stories.
- Services to help them with the cost and technical aspects of implementing P2, ways to address or preclude regulatory requirements, and networking opportunities.

TAPs expressed three main priorities in their information needs:

- Up-to-date information with working links;
- Help with marketing and "selling" P2 to their customers; and
- Assistance with measurement of P2 effectiveness and cost savings.

Ultimately, and outside of the purview of P2Rx, most TAPs indicated that their greatest needs were for more financial resources and more staff to be able to respond to increasing customer demands.

According to our interviews, focus groups, and the 2007/2008 Behavior Survey, both TAPs and businesses find different P2Rx resources and products useful. Table 3-8 below presents the percentages of *active* users of P2Rx who rated major P2Rx Web-based resources as "useful" or "very useful" In the 2007/2008 Behavior Survey. Active users were defined for this analysis as all respondents who did not respond "unaware of – do not use." The percentage of respondents who are considered Active users is included to provide context for the proportion of total users that are active vs. inactive.

Table 3-8: Percent of <u>Active</u> Users Rating Resource as Useful or Very Useful

Resource	Businesses		TAPs		Total % Active = Useful / Very Useful
	% Active = Useful/ Very Useful	% of Respondents who are Active	% Active = Useful/ Very Useful	% of Respondents who are Active	
Topic Hubs	87%	69%	81%	80%	84%
P2 Programs Directory	84%	65%	73%	73%	78%
News	83%	75%	71%	86%	77%
Industry Sector Information	77%	65%	76%	74%	77%
Case Studies	67%	58%	71%	73%	76%
Listserves	81%	66%	70%	72%	76%
Library	70%	56%	65%	70%	67%
Rapid Response	72%	41%	61%	49%	66%
P2 Results system	79%	40%	52%	63%	64%
Vendor Database	57%	50%	40%	57%	46%

Source: 2007/2008Behavior Survey

On average, a greater percentage of TAPs considered themselves "active users" (i.e. did not select "unaware of – do not use") than were businesses. Business respondents who were active users rated almost all resources more favorably than did TAPs. For both respondent groups, News had the highest number of active users, while Rapid Response had high numbers of inactive users in both groups. One interesting note is that the Library did not receive particularly high ratings in the 2007/2008 Behavior Survey, but the library pages receive the highest Web traffic by far according to P2Rx Web Measures. This is likely because much of the library traffic comes from a search engine directly to a PDF document. The user does not always know they are accessing the P2Rx library. Further, users who access library resources via search engines may bypass the page with the survey link on it and are therefore may not have taken the survey.

Results from the 2007/2008 Survey provide an illustration of how useful survey respondents found different aspects of the P2Rx Web sites:
- **Topic Hubs, P2 Programs Directory,** and **News** fall within the top four resources with active users in both categories.
- These three resources were also the most highly rated in the 2002 Customer Satisfaction Survey, along with the **Library**.
- TAPs considered **Industry Sector Information** and **Case Studies** more useful than did businesses.
- **Listserves** and **Rapid Response** ranked similarly for both audiences.

More detailed information on Resources can be found in Appendix C.

3.3.1 Center Perspective on Products, Services, and Content

The centers determine the needs of their users in a variety of ways. They most often consult assistance providers for guidance regarding the needs of industry. More than one center said they get feedback from state P2 coordinators about the needs of TAPs, their encounters with businesses, and what they wish they had known about in the field, which all indicates

> *Most centers consult assistance providers and state P2 coordinators to learn about their customers' needs.*

information needs and priorities. For online resources, the centers look at the Web measures and Web trends to determine demand for specific products. They occasionally conduct surveys (often with funding other than PPIN), or look at the results of others' surveys including the two recent national surveys. One center mentioned sitting in on MEP meetings with the lean manufacturing group to learn their needs; likewise, NEWMOA is planning focus groups with businesses in the future. Conference evaluations are also widely used to determine user needs, as is communication with advisory boards, roundtables, etc. Listserves are used to solicit feedback about what customers want to see at conferences, and high attendance at certain repeat conferences (e.g., "P2 101") indicates an ongoing need for introductory training. Other means of determining information needs include tracking environmental blogs and news to stay informed of emerging issues, interacting with trade associations, and developing peer roundtables with industry groups. Clearly, the centers have many means to gather information about the needs of their customers. However, when looked at system-wide and in an evaluative sense, this information is anecdotal and informal, and often documented minimally or in meeting minutes.

NEWMOA conducts an Annual Survey of Assistance and P2 Program Priorities, which goes out to the Northeast Assistance and P2 Roundtable Steering Committees made up of representatives from the states. The survey asks about sector priorities, multi-sector technology priorities, topical priorities, and service and outreach priorities. NEWMOA uses the results of this survey to inform the topics they will focus on for both their regional roundtable activities and their PPIN-funded work. For example, there is a direct link between the priority sectors reflected in recent survey results and the topic hubs they have developed.

WRRC incorporates their needs assessment into existing functions, such as monthly conference calls and semiannual meetings with their states. GLRPPR uses a variety of methods to determine needs, including asking their steering committee, polling listserves, monitoring blogs, and requesting feedback at conferences.

Zero Waste identifies customer needs using immediate feedback from workshops, P2Planner information, feedback from a P2 program or local government program or pretreatment coordinator, and/or incoming industry requests for information. Through workshops, Zero Waste supplies the customer with information and follows up, partly in the form of assistance, and partly as an evaluation. The process begins when Zero Waste speaks with assistance providers to identify needs and develop tools, and conducts a workshop. This is followed by broader market penetration via the Web. It is more difficult to determine need from Web usage; however, Zero Waste is unique in that they know who is using certain of their Web tools because they have a registration process for users which allows them to track their progress.

P2RIC annually consults their service provider directory of 133 programs to assess needs, and identifies needs through semiannual roundtable meetings. Peaks to Prairies requests feedback from state P2 coordinators, and also measures the use of their Web products to determine demand. WRPPN uses a variety of methods to assess needs, including conference evaluations and listserves. They also utilize their Advisory Board to annually compile a list of over 100 possible topics for trainings, eventually narrowing their scope to six trainings with 18 sessions per year.

The model used by PPRC is similar to Zero Waste's model. They work with the regional roundtable and a few TAPs and businesses to determine needs and develop an approach. The center also conducts evaluation and gets outcome information at the same time as they conduct their activities, and so can more effectively target the information they will provide in the future.

3.3.2 Needs of Businesses

Business respondents varied widely in their needs. Many indicated a need for cost information to help them consider implementation of P2. One business expressed an interest in more topic hubs or case studies pertaining to service sectors. Although service sector oriented information exists, this respondent perceived it was lacking. Many businesses in the interviews and focus groups requested vendor or product information. Respondents want the centers to be non-commercial and unbiased, yet also provide reliable and up-to-date vendor information. Additionally, many participants in both forums indicated a preference for process-specific information, rather than the sector-based organization of the current topic hubs.   Table 3-9 summarizes the needs that business representatives interviewed have with regard to P2Rx centers.

Table 3-9: Interviewed Business Representatives' Reported Needs

Business Representative	Reported Needs
University ES&H Director	Networking to help him implement changes, case studies for administrators and decision-makers
Dry Cleaner	Web site key words, terminology, and units of measure that are better suited to an industry audience, information that is easier to find.
Paper Mill Environmental Manager	Information on return on investments, and alternatives and product substitutions, product-specific information about alternatives for toxic chemicals.
Naval Air Station	Information on prohibitions on products, chemical and process change information, non-hazardous substitutes, and vendor information on reputable recyclers. Prefers information organized by topic or process (not by sector).
Cabinet Maker	Information to help them keep their air emissions low enough to avoid having to obtain a Title 5 permit under the Clean Air Act.
Aerospace Parts Supplier	A non-commercial, unbiased information source with information on products and case studies of successes. Also would like to network with others.
Ski Area Developer	Information on construction and demolition waste, purchasing, recycling, and reuse options. All case- and state-specific.
Jewelry Maker	Information about the waste effects of different processes involved with jewelry making (i.e., plating, polishing, casting), names of "green" vendors, and the waste streams of local vendors. She thinks there would be tremendous response to a jewelry-specific topic hub.

Focus group participants indicated that they need information organized by technology or process, as well as organized by sector. This is consistent with comments in the interviews as well. The example offered during the focus groups was for aqueous parts washing, as it is often categorized in the automotive sector but in fact is applicable to other sectors as well.

An effective Web search engine was also cited as a critical element, allowing searching in ways that cut across industries and technologies. Most people use Google for searches, and P2Rx resources need to be accessible in this way. (Note that WRRC actively works at getting their site to the top of Google results.) An idea was proffered to incorporate a knowledge management system similar to what technical support sites have (i.e., log every question that is asked and offer the ability to search the answers). This is analogous to ideas that came from the center staff to better use the Rapid Response questions and answers as a way to identify the needs that exist.

Further, industry focus group participants discussed the importance of new innovations and technology, and the importance of having up-to-date information on the Web sites. It was noted that new, cutting-edge technologies are often developed by for-profit companies, and that P2Rx does not provide this type of information. The discussion continued by saying that, in fact, center users are not even interested in an endorsement of certain technologies by the centers, but only in an acknowledgement or a list of all the technology options. It was noted that other government agencies and programs provide such listings (e.g., Occupational Safety and Health Administration and HazComm).

3.3.3 Needs of TAPs

TAPs discussed three priorities in their information needs to promote P2 for their customers. One involved their need for current, up-to-date information. Several TAPs indicated that sometimes the topic hubs are outdated and contain links that do not work. Most TAPs said that P2Rx provides the right content in the topic hubs, but that it needs to be more current. They expressed a desire to be updated on new technologies, regulations, and best management practices, and indicated that they need this information without commentary or opinion. Some TAPs suggested broader use of the listserves or more emphasis on providing news in order to supply TAPs with the "latest and greatest" P2 technologies and best practices.

Another priority involved help with promoting P2, and the need for help in persuading businesses to adopt P2 practices. TAPs indicated that the best way to "sell" P2 to businesses is to present money-saving options and incentives. Although P2Rx would not likely be able to provide grants, the centers could provide more information on the availability of grants or other funding, loans, rebates, or tax incentives to help businesses make equipment changes or encourage their adoption of P2.

> *TAPs noted three priority needs:*
> - *Current, up to date information*
> - *Assistance with marketing P2*
> - *Help with measuring effectiveness*

Another priority was assistance with measurement and estimation of the effectiveness of P2, which relates directly to the marketing priority by aiding in demonstrating the benefits of P2. A

few TAPs suggested the creation of a calculator-like tool that would show the financial savings or waste reduction that could be achieved by implementing P2 practices, or simply a collection of common metrics. Several of the TAPs said that a measurement tool would help them not only with assistance to businesses, but with their own grants, as they are required to report on their outcomes. TAPs suggested that P2 professionals have done some of these standard calculations, but the formulas, metrics, and conversion factors cannot be found in one place. As an example, if a TAP is working with the hospitality industry, he would like some common metrics to qualify the results. For example, if a hotel switches to low-flow shower heads and there are a known number of guest rooms, what is the reduction in water use? Providing a conversion factor such as water use reduced per occupied room with a low-flow shower head would be beneficial to TAPs. This information is available, but is difficult to find, and could be useful to have in a topic hub setting or built into the P2 Results tool.

Several TAPs in the focus groups indicated a desire for increased searchability of the P2Rx center Web sites and resources. These TAPs suggested a move toward a more user-friendly format, involving tagged keywords and searchable resource text; however, these features are in fact currently available on the Topic Hubs, although not all centers have provided the option to browse by keyword. There seem to be two different strategies TAPs employ when seeking information: either browse through a few trusted sources, or conduct a broad search via Google. For those with a couple of frequently used sources, P2Rx and the local center are often included in those sources; however, those who prefer a broad-based Internet search often do not use the centers unless their resource is on the front page of a Google search.

Although not a need that can be met by P2Rx, a sentiment commonly expressed by TAPs was that their biggest need is increased staff time and monetary resources to handle an increased demand for their services. The centers can help ease the TAPs' burden by providing information resources and conducting more time-consuming research so that TAPs can use their time for direct assistance. Other suggestions from TAPs included more focus on vendors; a shift in focus from production industries to the service industry; and production of templates for documents such as checklists, guidance documents, and best practices.

Several TAPs indicated that the networking opportunities offered by P2Rx, such as roundtables and regional meetings, conferences, Web conferences, and listserves, were P2Rx's most useful services because they allow for sharing of information between states and provide opportunities for TAPs to stay in touch with other professionals in the field.

Some TAPs utilized the topic hubs frequently, while others found them to not always have up-to-date or relevant information. Several TAPs, particularly those from state programs, indicated that they organize their own assistance by sector; therefore, the topic hub format is useful and appropriate. Many TAPs thought the topic hubs were a helpful place to begin research on a new sector with which they were unfamiliar. However, the organization by sector or the choice of the sectors themselves was criticized by some TAPs, particularly local TAPs who tend to work with smaller businesses, because the information in the topic hubs tends to be focused on larger-scale industries or sectors they did not feel applied to their work.

TAPs also indicated a preference for case studies of successes that can be shared with the businesses they serve because they provide evidence of a real-life application and are often an effective tool in promoting P2. Some TAPs felt that local case studies were more useful, especially when the business that participated in the case study was willing to become a "mentor" to other businesses interested in implementing a similar P2 practice.

TAPs stressed the importance of regional or even state-specific information, and indicated that the value of the centers lies in their ability to provide regionally relevant materials. Some focus group participants indicated that even with the P2Rx centers' regional focus, the usefulness of their information is limited at a certain point because TAPs need specific information based on state or local regulations. Additionally, TAPs emphasized the need to tailor information to their customers' needs and to the specific regulations under which they are governed.

One TAP mentioned that she was required to write a grant in order to begin working with a new industry sector, and indicated that P2Rx information resources are useful for putting directly into her grants. Others also mentioned that they use P2Rx information internally as well, and refer people within their assistance organizations to P2Rx resources.

The TAPs interviewed generally fed results data into the P2 Results tool, and had mixed opinions on its usefulness. Some, particularly state TAPs, found the tool to be a useful way to track their outcomes for their own state or grant requirements. Others found that P2 Results did not quite fit the measures they were already collecting or did not allow them to tailor the tool to their own state or program. A few commented that the tool would be more useful if accompanied by additional assistance in calculating the numbers to feed into the tool (e.g. calculators or metrics, see Section 3.3.3 for more details). Thirty percent of TAPs who responded to the 2007/2008 Behavior Survey rated the P2 Results tool as "Useful" or "Very Useful."

Interviewees were split on their use of Rapid Response resources; some rely on Rapid Response for help with either quick questions or more in-depth research, while others do not utilize Rapid Response because they prefer to do their own research. One TAP who had used the Rapid Response mentioned that she has in the past submitted inquiries that have gone unanswered. Twenty nine percent of TAPs who responded to the 2007/2008 Behavior Survey thought that Rapid Response was "Useful" or "Very Useful."

3.4 Outreach to Customers

Evaluation Question 6: Are the centers effective in reaching businesses through TAPs?
  a)   What do centers do to reach businesses through TAPs?

Evaluation Question 7: Are the centers effective in reaching businesses directly?
  a)   What do centers do to reach businesses directly?

In most cases the centers conducted outreach to businesses and TAPs in much the same way. For many, the TAP/center interaction worked well, leveraging resources and expertise to effectively serve the business community.

Businesses we spoke to felt that the information on the center Web sites was geared much more to people in the regulatory or academic field than to people like themselves. In terms of the way the centers function, they serve as more of a "connector" to others, including to the TAPs. In some cases the business will contact their state TAP first, who will put them in touch with the center for particular assistance. There was some fluidity in terms of who goes where first, but what did come across is the difference in the type of services provided by the centers versus the TAPs. The centers try to be a broad brush, reaching an entire region with information delivered at a distance and through others. The TAPs, at the state or local level, are situated to use the information the centers provide to do on-site or other direct assistance. There seems to be a clearly defined set of roles for each. There are some cases where the center was a more palatable organization for a businessperson to contact, as they are not (generally) associated with a regulatory agency. Regardless of how the centers were accessing their clients, many businesses felt that the centers were not promoting themselves effectively.

TAPs help the center determine what is needed by businesses, and they are also the delivery mechanism to businesses. TAPs expressed that businesses are better served by a state or local entity to provide direct assistance to end users. A few TAPs felt that if the centers were to focus their efforts on serving businesses directly it would be a duplication of the services TAPs already provide. Having the centers work directly with business overlaps with the TAPs' work and may compete for funds and customer base, thereby making both organizations less effective. The TAPs want to have the support the centers can offer them in providing services in their state.

The findings show that historically the centers as a whole were not designed to help business directly, but rather they were designed to help TAPs. When a center does work with business, outreach is done in one of several ways: (1) through TAPs who may refer them; (2) in response to incoming questions or requests for information (i.e., reactively); (3) through planned conferences or workshops or (4) done no differently than other general outreach. For example, workshops may be geared to a particular industry, but both businesses and TAPs are likely to attend. Overall, direct work with businesses is most often done through or for groups. Information on the Web sites does not all appear to be specifically applicable to businesses. However, there is a wealth of information there and businesses clearly use it, as indicated in the 2007/8 Behavior Survey.

To help answer how the centers are reaching their customers, one can look to the 2007/208 Survey results in Table 3-10. Most users were referred to P2Rx by a conference or meeting, a colleague, or an e-mail. These results are consistent with the 2002 Survey, which showed that most users were referred by a colleague or through e-mail or a listserve. Table 3-10 shows that more TAPs were referred by colleagues than were businesses. In total, 352 businesses (end users) and 317 TAPs (intermediate users) responded to the 2007/2008 Behavior Survey.

Table 3-10: Referrers to P2Rx

Referrer	Business	TAPs	Total
Assistance program	4%	4%	4%
Brochure or newsletter	4%	1%	2%
Colleague	15%	29%	22%
Conference or meeting	37%	33%	35%
E-mail message or listserve	15%	14%	14%
Link from another website	7%	6%	7%
Other (please specify)	8%	9%	9%
Search engine	11%	5%	8%
Vendor	0%	1%	0%
Number of responses	*309*	*295*	*604*

Source: 2007/2008 Behavior Survey

The centers are more effective at reaching businesses through TAPs. For determining effectiveness, however, they may have more success getting results directly from businesses to the extent they can because it is more difficult to measure the effectiveness of reaching businesses *through* TAPs. In terms of reaching businesses directly, many centers felt that limited funding inhibited them from doing what was needed to effectively change their focus from TAPs to businesses, in terms of determining needs and doing one-on-one assistance. In any case it seems too soon to evaluate the centers' effectiveness in reaching businesses directly, as this is a new requirement as of last year.

3.4.1 Center Perspective on Customer Outreach

For the most part, centers' direct work with businesses is on an ad hoc basis because the centers have been designed to provide information to TAPs, and also because of limited time and staff. Centers primarily react to businesses' requests, and do not often specifically target businesses with information. Of course, the centers do not all operate the same, as was described previously. Some work more with businesses than others, and some have more concertedly shifted to doing so in the past year. We can summarize these relationships based on the interview findings as follows:

- **NEWMOA** is constrained by their relationship with their member states, and consequently has difficulty transitioning to performing direct technical assistance because it will overlap with their state's activities.
- **WRRC** still focuses primarily on TAPs, and works with businesses directly through Ask Rudy and other Web related services.
- **GLRPPR** works primarily with TAPs, but has worked directly with a few businesses on an ad hoc basis.

- **Zero Waste** works with both TAPs and businesses, and reported reaching over 1,000 businesses in brief interventions, but working extensively with around 30 TAPs.
- **P2RIC** still works mostly with TAPs, but is transitioning to working with businesses because of changing EPA requirements.
- **Peaks to Prairies** makes more effort to reach end users than TAPs; however their end users are not traditional businesses but primarily schools, parks, tribes, residential owners, designers and builders.
- **WRPPN** focuses their efforts on TAPs, and only interacts directly with businesses through the conferences the center sponsors.
- **PPRC** calls their relationship with TAPs a "wholesale/retail" relationship, wherein PPRC is the wholesaler of information, and the TAPs are the retailer.

A vast majority of centers said that they were set up to function by working through TAPs (as information providers), and several interviewees (both industry and centers) said that the materials on the Web sites were geared to this audience. Many centers found it difficult to change their focus from TAPs to businesses, and to move forward in customer outreach without the funds to hold discussions, focus groups, etc., with

Many centers were originally designed to provide information to TAPs, and changing their focus to directly assisting businesses presents some difficulty.

businesses to determine their needs. In the past they have frequently relied on state TAPs and others to inform them of their users' needs. Two centers noted that while their focus is on state TAPs, everything they do is accessible to everyone via the Web. P2RIC said that their focus on TAPs is changing due to changing PPIN grant requirements, but noted that the new RFP for center grants seems not to emphasize a focus on working directly with businesses.

WRRC reported doing nothing different for the two audiences. They reach both audiences the same way (i.e., making sure they're on top of the Google search return page). While PPRC develops information with the final user (business) in mind, they use it to help the intermediate customer reach them. Zero Waste directs their work at both TAPs and businesses with equal effort. They see their relationship with TAPs and businesses as a continuum with a feedback loop. Additionally, they commented that they have more success looking directly at business for results; it is harder to measure the effectiveness of reaching businesses *through* TAPs, but they are starting to do that now. Businesses know of them largely through referrals from TAPs, and most of their interactions with business are with groups at workshops or from people who phone in for assistance.

PPRC aligns with the work of TAPs, often coming in after the TAPs to provide longer-term value-added services. They also provide assistance when the facility is uncomfortable having a state agency provide service. Additionally, PPRC has some specific technical expertise that the TAP may lack. PPRC stays in contact the business community, associations, MEPs, etc., as a way to stay apprised of needs. Similar to other centers, however, they do not document this very well and have no quantifiable information on results of these activities. The center also leverages the fact that industry obtains information from other sources such as vendors and service providers, and they work with these entities by arming them with information. For example, industrial launderers are not traditionally considered a TAP, but in fact they visit many businesses collecting rags and coveralls. If information is given to the industrial launderers, they

can provide it to their customers and make suggestions (e.g., replace solvents). Industrial launderers have a vested interest in some of these activities because they're handling the materials. This is an interesting example of a supply chain model.

P2RIC also plays a role in assisting both TAPs and businesses. Sometimes they act as a "sales rep" for TAPs when they work with businesses, informing them about the services of the TAP or sending their materials to business contacts. Conversely, TAPs use P2RIC to review materials and make them more relevant. The TAP's Web site links to P2RIC, encouraging their customers to visit the P2RIC Web site. Similar to all other centers, P2RIC's interaction with business is often through groups, including industrial councils and organizations. They also network with a variety of individual business representatives who teach classes or speak at events.

Peaks to Prairies develops toolkits and other products for businesses and other end users that P2 coordinators or TAPs then distribute. In some cases the centers are making business-oriented materials and tools available, and this is how they are reaching businesses. However, these materials can be used by either audience segment, and are often passed through TAPs to businesses.

One center works with business associations, but as a source of information and reviewer of content rather than as a customer. They interact with business as a customer only if the business comes to them through Rapid Response. Another center said that their contact with final customers was through conference attendees only. One center was established by a stakeholder group that explicitly wanted an information hub, and was never intended to provide direct technical assistance. An interesting point was made that the regional centers simply do not have enough resources to provide direct technical assistance to a multi-state region.
In general, center-run conferences are not specifically promoted to businesses, although they are welcome to attend. Center listserves generally include industry individuals, but the percentage of recipients represented by business is unclear.

This is not to say that work with end users does not occur across the network, and with success. Such direct work with businesses, when it does happen, is typically through business groups, alliances or associations, and services are provided for the group as a whole. The information is disseminated to groups rather than to individual businesses. For example, GLRPPR played a role in fostering the development of the Midwest Product Stewardship Council (MPSC). The center provided technical support for the MPSC, and had the group present at their conferences and serve on the organizing panel. Peaks works with tribes (as end users) through the National Pollution Prevention Roundtable's Tribal P2 Workgroup. Some entities, such as pretreatment programs, are both an intermediate and a final customer in that they may use information from the centers to reduce their own releases, or pass it on to their dischargers as a technical assistance service. Zero Waste reported working closely with pretreatment coordinators. Although some centers work more directly with businesses to provide services, they all rely on TAPs at various stages of the process. For the most part, TAPs provide critical information to direct the center to what is needed, and they are also the delivery mechanism.

It seems to be too soon to evaluate the centers' effectiveness in reaching businesses directly, as this is a new requirement last year. In general we heard that for groups they work with

regularly, centers may get feedback from facility managers indicating a product was useful. TAPs have also provided positive feedback (mostly anecdotal and verbal) indicating program effectiveness.

3.4.2 Outreach to Businesses

Businesses expressed various opinions about the effectiveness of the centers at reaching them directly, as well as of the effectiveness of working with TAPs. One business said the state TAP acts as conduit between him and the center and he often sees them both at the same event, while others preferred to work with centers directly, or frequently consult TAPs first and are sometimes referred to the centers. Several businesses mentioned a preference for working with the centers rather than with government TAPs, due to their management's discomfort with working with an entity they perceive to be a regulatory agency, even in an assistance role. On the other hand, some businesses indicated a tendency to first reach out to a government TAP for assistance, after which they may be referred to the centers. Table 3-11 summarizes ways in which the P2Rx centers reached the business representatives interviewed.

Table 3-11: Center Outreach to Interviewed Businesses

Business Representative	Method of Contacting Center
University ES&H Director	Gets information both from the center directly and from TAPs. Had the impression that the center may be less effective at reaching customers who are geographically further away.*
Paper Mill Environmental Manager	Was referred to the center by his TAP. Attends training and networking events if it coincides with another trip. Suggests webinars for those in remote locations. Views centers as coordinator rather than technical resource.
Naval Air Station	Worked with the center directly after receiving information about them during an inspection. Does not work with TAPs. Thinks that many are not aware of the centers' services.
Cabinet Maker	Referred to the center through the state agency. Typically goes to the state agency first, as they implement the state P2 planning requirements and serve as a TAP. Sometimes will work directly with the center, as when they received on-site technical assistance in use of laser spray guns. Thinks that many are not aware of the centers' services.
Aerospace Parts Supplier	Worked directly with center because the state TAP is also the implementer of the state P2 planning requirements and management preferred to work with a group perceived as independent and working for the best interest of the company.
Ski Area Developer	Connected with the center via Web search—linked to the center through resources on their associated university's Web site.

* This respondent is co-located with center

Three out of five business focus group participants had been in contact with a TAP. They indicated that generally this contact involved them reaching out to the TAP for information, rather than the other way around. However, the businesses represented in the focus groups were not generally the industries typically served by TAPs, i.e., several were involved with management consulting or information technology. Marketing was a major topic of the focus

groups; specifically, the centers' failure to do enough of it. One commenter said that the "P2Rx has a marketing problem" and that they only found the Web site by stumbling upon it. Another person goes to a lot of EPA conferences and had never heard of P2Rx or been referred to it. They said many of these conferences are "preaching to the choir" and that the centers needed to market their resources more widely, since it seems they most often only promote at their own events. One participant suggested advertising in *Business Week* or *Fortune Magazine* in order to reach businesses directly.

3.4.3 Outreach to TAPs

TAPs help the center determine what is needed by businesses, and they are also the delivery mechanism to businesses. This is working effectively. The TAP participants in the interviews and focus groups generally questioned the logic of having the centers work directly with businesses. TAPs see the centers as a source of information and networking aimed at TAPs, and thought that the centers working directly with business would be duplicative of the TAPs' efforts.

TAPs stress the importance of one-on-one contact with businesses to successfully promote adoption of P2 practices.

TAPs emphasized the need for one-on-one contact with businesses in order to be successful in promoting P2, particularly with smaller businesses. They indicated that a local or state organization may be more effective than a regional one in reaching businesses simply for reasons of proximity.

3.5 Attribution of Outcomes

Evaluation Question 5: To what extent do businesses that use P2Rx centers change their practices or adopt P2 practices?
   a)   *Do businesses use P2Rx information as a resource to solve pollution problems or to help them adopt P2Rx practices?*
   b)   *What causes/influences businesses to seek P2Rx information?*

Evaluation Question 6b: *Can any outcomes (short-term, intermediate, or long-term) be attributed to information received from P2Rx centers [through TAPs]?*

Evaluation Question 7b: *Can any outcomes (short-term, intermediate, or long-term) be attributed to information received [directly] from P2Rx centers?*

Attribution of outcomes is perhaps the most challenging task for P2Rx. EPA sponsored the recent nationwide 2007/2008 Behavior Survey to try to establish a connection between the center activities and outcomes. While informative, this survey is not reliably representative of P2Rx users, and does not isolate the effects of P2Rx activities from other influences on P2 adoption. The survey results certainly provided an indication that P2Rx is affecting short-term, intermediate, and long-term outcomes; however, with the existing information, P2Rx is not currently able to establish a definitive connection between their activities and behavioral or environmental outcomes. However the evidence from the interviews and surveys shows that there is some connection between the information provided by P2Rx and increased awareness and long-term outcomes.

TAPs who were interviewed or participated in focus groups had mixed opinions on the measureable impacts of P2Rx on outcomes. Nearly all TAPs consulted were concerned about the difficulty in relating P2Rx resources or information to outcomes because of the number of steps between the information and the outcome. Additionally, TAPs asserted that P2Rx is only one of the many information sources they utilize in assisting customers, and to attribute an outcome to a particular piece of information is very difficult. However, many TAPs indicated that they thought P2Rx contributed to intermediate outcomes in the sense that P2Rx resources serve to educate TAPs.

All the businesses we spoke with during interviews found at least certain center services extremely helpful, the focus group participants less so. Measurable environmental outcomes were cited by most of the interviewees, although not all of the outcomes were well documented. Many of the outcomes would be characterized as awareness and behavior change outcomes more than quantifiable waste reduction. The causes for business in both the interviews and focus groups to seek P2Rx information are the same as those that cause them to seek any P2 information, i.e., cost savings, need for safer substitutes, responding to customer demand, regulatory compliance, etc.

Behavior changes were captured in the 2007/2008 Survey, in the question asking what actions were taken due to information obtained from P2Rx. Table 3-12 shows that TAP respondents attribute more actions to P2Rx information than do businesses, while businesses were more

likely to report that no process changes occurred. Note that some items in this list are changes in awareness (i.e., short-term outcomes) while others are actions taken (i.e., intermediate-term outcomes).

Table 3-12: Actions Taken as a Result of P2Rx Information

Actions Taken	Business	TAPs	Total
Changed a pollution prevention process or practice (i.e., implemented pollution prevention)	28%	53%	41%
Identified a pollution prevention opportunity	45%	65%	55%
Purchased new process equipment to prevent pollution	20%	23%	22%
Implemented energy conservation measures	22%	27%	25%
Switched to renewable energy	8%	4%	6%
Contacted a vendor	14%	28%	21%
Implemented material or waste recycling system	36%	38%	37%
Changed handling of waste or emission	17%	36%	27%
Installed pollution control equipment (e.g., scrubbers, control technique)	8%	11%	10%
Installed a waste treatment system	2%	10%	6%
No process changes were taken	21%	14%	18%
Other (please specify)	7%	15%	11%
Number of responses	*188*	*188*	*376*

Source: 2007/2008 Behavior Survey

Additional responses to the Survey indicated that respondents thought P2Rx had impacted their awareness. Table 3-13 lists the answers to the following 2007/2008 Behavior Survey question about intermediate outcomes, which is worded differently for business and for TAPs:

> **Business:** *"[P2Rx] helps me to improve my awareness of environmental practices to reduce pollution. (Check only one answer.)"*

> **TAPs:** *"Access to [P2Rx] information has improved my ability to provide technical assistance to my clients. (Check only one answer)".*

Table 3-13: 2007/2008 Behavior Survey Responses: Improved Awareness/Ability to Provide Assistance

Improved Awareness/Ability	Business	TAPs	Total
Strongly Agree	29%	20%	25%
Agree	41%	44%	43%
Neutral	15%	22%	18%
Disagree	0%	1%	1%
Strongly Disagree	0%	1%	1%
Do Not Use	14%	10%	12%
Number of responses	*306*	*290*	*596*

Both business and TAPs respondents were favorable about the usefulness of the Web site. Seventy percent of business respondents agreed or strongly agreed that the site improves their awareness of environmental practices, and 64% of TAPs respondents agreed or strongly

agreed that the site improves their ability to provide technical assistance. Very few respondents disagreed, though some were neutral, and a substantial number did not use the site.

Further, respondents reported on long-term outcomes (pollution reduction) as shown in Table 3-14, which summarizes answers to the question which were asked differently for businesses and TAPs:

> **Business:** *"Please identify whether you reduced or eliminated pollutant(s) as a result of [P2Rx] use. (Check all that apply.)"*

> **TAPs:** *"Please identify whether your client(s) reduced or eliminated pollutant(s) as a result of [P2Rx] use. (Check all that apply.)"*

Table 3-14: Pollutant Reduction as a Result of P2Rx Use

Pollutant Reduction	Business	TAPs	Total
Reduced non-hazardous waste (solid waste)	26%	36%	31%
Eliminated non-hazardous waste (solid waste)	7%	13%	10%
Reduced hazardous waste or hazardous materials	29%	37%	33%
Eliminated hazardous waste or hazardous materials	7%	13%	10%
Reduced fugitive air emissions	7%	15%	11%
Eliminated air emissions	3%	5%	4%
Reduced waste water pollution	12%	26%	20%
Eliminated pollutant waste water	5%	10%	7%
Don't Know	20%	34%	27%
None	31%	8%	19%
Other (please specify)	19%	16%	18%
Number of responses	*197*	*208*	*405*

TAP respondents generally indicate more attribution of outcomes to P2Rx use than do businesses. Of note are the high responses from both audiences for "Reduced non-hazardous waste" and "Reduced hazardous waste or hazardous materials." A fairly high percentage of businesses responded "None" as compared to TAPs, and high percentages in both audiences responded "Don't know."

In addition to behavior changes and waste reduction, respondents to the 2007/2008 Behavior Survey also indicated cost savings outcomes as a result of P2Rx information use. Table 3-15 presents the answers to the following 2007/2008 Behavior Survey, which was asked differently for business and TAP respondents:

> **Business:** *"Has using [P2Rx] or the action(s) taken above resulted in cost savings to you? (Cost includes time as well as dollars.) (Check only one answer.)"*

> **TAPs:** *"Has using [P2Rx] or the action(s) taken above resulted in cost savings to your client? (Cost includes time as well as dollars.) (Check only one answer.)"*

Table 3-15: Cost Savings to Business – Directly or Through TAPs

Cost Savings	Businesses	TAPs	Total
Do not know	49%	63%	56%
No	27%	9%	18%
Yes	24%	29%	26%
Number of responses	*224*	*219*	*443*

Source: 2007/2008 Behavior Survey

Table 3-16 presents answers to a question asked of TAPs in the 2007/2008 Behavior Survey: "*Has using [P2Rx] saved you time or money in serving your client(s)? (Check only one answer.)*"

Table 3-16: Cost Savings to TAPs

Direct Cost Savings	TAPs
Do not know	41%
No	10%
Yes	49%
Number of responses	*221*

Source: 2007/2008 Behavior Survey

About a quarter of respondents indicated cost savings for businesses, either directly or through TAPs. However, large percentages of respondents did not know whether using P2Rx had resulted in cost savings. Half of TAP respondents reported cost savings for their own organizations due to use of P2Rx.

3.5.1 Center Analysis

Centers currently collect outcome information in various ways. Various anecdotal sources are utilized, such as speaking with advisory boards and using conference evaluations, to indicate that a center's end users are achieving waste reduction.

Zero Waste collects information about outcomes through the P2Planner on its Web site. When someone registers on the Zero Waste Web site, they start to provide information (name, business, Toxic Release Inventory (TRI) IDs, etc.) to the online assistance tool, and what P2 activity they are going to try to implement. Two years later, Zero Waste can go to another database (e.g., a regulatory database like TRI) and find the user (e.g., with TRI ID). In TRI, facilities may report their P2 activities on the Form R, and the center can use this information to see what they changed. The P2Planner has 5,000 potential reporters; around 500 use the tool, roughly 90 had results, and some of those the results were related back to center activities. These data can be further filtered to see what services the P2 reporters used and what changes they made (e.g., Zero Waste does not count the reduction if the reporter reduces something different from what they say in their P2 plan). This quality control system results in the collection of measures information from a tiny fraction of entities, but those changes resulted in reduction of huge amounts of waste. It is important to note that P2 Planning is a requirement in the state

of Texas, and this requirement drives much of the activity on the part of industry that enables Zero Waste to collect outcome data from the P2 Planner.

Peaks to Prairies collects information about outcomes by finding out from state P2 coordinators what information they're using and how they're using it. Peaks to Prairies expects their toolkit for schools to change behavior and prevent hazards, by helping schools inventory materials and develop new purchasing plans. For parks, they look at park-level environmental management systems. For builders, architects, and homeowners, they look for implementation of green building strategies. They do not document these outcomes, and unless they have direct interaction with their audience, they do not know what is being done with the information.

Several centers, including GLRPPR, WRRC, and PPRC, maintain online archives of questions and answers that have been addressed by the center. GLRPPR's online Help Desk Archive also includes the question "Was this answer helpful to you?" and any comments. PPRC tracks the requester's name so that follow-up may be conducted. While information in this format is difficult to browse through, an online archive captures valuable information and reflects the level of effort expended in responding. An archive such as this, whether for Help Desk or Rapid Response, can be used to share technical information and resources, as well as for measurement purposes

The centers can track users' visits to their Web site looking for information, but gauging what users do after that is almost impossible. One center attempts to document outcomes by measuring the "stickiness" factor on their Web site, which is a measure of how long people stay on the site. (The average time is getting longer.) They could potentially monitor the people who make requests through Rapid Response/Ask Rudy, and then go back to them and ask for information. But if the requesters come in through the Web, the center does not know who they are. The center does know that their Web site has 4 million users with a lot of repeat users, that 30 percent of their users have their site bookmarked, and that when their site is down they get numerous complaints Another center gauges effectiveness by the fact that their posted calendar events seem to draw attendees, and that grant announcements are read by Web users.

One popular way to measure changes in awareness or knowledge is to do pre- and post-testing at conferences, but of course this only evaluates the value of that particular event. Last year WRPPN's conference evaluations asked what percentage of outcomes the attendees could attribute to information from the conference. The answers to this multiple choice question were evenly split between "0-10%" and "over 10%," with no one responding "0."

Short-term and intermediate outcomes are more clearly influenced by the centers, but final outcomes are extremely difficult to assess. One center commented that it is rare to give a customer a case study or other piece of information and have them make a change because of it. This center believes they have had increased awareness, but this belief is based on indirect and circumstantial evidence. In general, many centers feel it is not useful for EPA to ask them to document implementation of P2, as there are multiple steps between the centers and P2 implementers and to attribute the implementation to P2Rx information is very difficult.

There is a continuum of costs and benefits involved in collecting measures information. For example, it is extremely resource intensive to follow up on one-on-one technical assistance by calling or e-mailing the recipient. However, when the recipient does respond, the center typically gets deep, compelling results. A workshop uses fewer resources than one-on-one assistance, but is still resource intensive. Zero Waste did a follow up study of workshop attendees that documented $250,000 in savings and tens of thousands of pounds of waste reduced.

Zero Waste commented that obtaining data from EPA databases such as for Toxic Release Inventory reporting, is the least resource-intensive means of collecting results information, and perhaps the most efficient, but also only tells part of the story. This center actively mines state and local databases for information to put into P2 Results. Zero Waste spent 2 weeks trolling databases and found tens of millions of pounds of reductions that can be associated with activities reported in P2 Plans. Results from databases have less depth, but are more in line with EPA's strategic goals.

Many outcomes are illustrated through case studies prepared by P2Rx centers, and some of these outcomes can be attributed to the assistance of a P2Rx center. A sample of case studies provided by Zero Waste showed outcomes in the form of waste reduction, cost savings, energy conservation, and the use of P2 to achieve regulatory compliance. These outcomes were attributed in the case studies to attendance at workshops, use of the P2Planner, and use of information provided by Zero Waste. PPRC provided several case study examples where the center leveraged their EPA PPIN funding with funding from the National Institute of Standards and Technology and the state to do on-site "Lean & Environment" activities. Using value stream mapping and kaizen (improvement) events as well as other methods, they were able to achieve and document significant long term outcomes. If such information is well documented, case studies can provide a compelling sample of outcomes related to P2Rx assistance.

In order to get measurable results, it is helpful for centers to engage with users who are willing to commit to follow-up. For example, in an exchange with businesses at a meeting, it was suggested that one center develop a Green Meeting Guide for hotels. The center now requires, as a precondition to any engagement, a commitment to measure; they are willing to develop the guide if the hotel with which they are working can provide measures on what they saved by using the guide.

The primary means used by the centers to get feedback of any kind comes from state and local agencies, Advisory or other Boards, EPA regions or regional roundtables, and/or steering committees. Centers have direct access to and ongoing relationships with these groups of individuals, and it is straightforward to solicit information from them. In contrast, soliciting feedback from end users is more difficult (unless they are affiliated with these groups), and therefore is quite limited. This is an important factor when considering the goal of working directly with end users because a robust mechanism for eliciting feedback from them, e.g., on outcome measures, does not currently exist. Ironically, the near-term priority to make P2Rx information resources more directly accessible to businesses in the Strategic Plan is to "dialogue with assistance programs to define additional ways of modifying P2Rx resources so that they are more directly accessible and usable by business." Maintaining this role of assistance providers runs counter to the intention to work directly with business. Further, in

order to effectively redirect center efforts toward business, a concerted effort must be made to determine the needs of this audience.

Many different factors can affect outcomes. For example, greenhouse gas reduction is becoming a priority for many businesses, yet it is impossible to attribute this focus to a particular resource or to years of information disseminated to the public. One center cited an example of a facility that began to make environmental changes as a result of the owner's death from cancer. The center had been providing them with information for a year, but that one event changed their willingness to act. It is also important to remember that businesses get information from a number of other sources as well as the centers, such as consultants, vendors, or industry associations, making it difficult to attribute changes to any one source.

Many centers said that measuring outcomes and causality is extremely difficult, and is more so given the current funding levels for the programs. Most centers said they felt they were effective and have had an impact. They cited a variety of anecdotal evidence, or said that this was an impression based on discussions with customers and other associates.

3.5.2 Business Analysis

The business representatives we interviewed reported a variety of outcomes, including waste management of electronics, implementation of dry cleaning with CO_2, reuse of expired dyes, reduction in pesticide use, increased production due to implementation of a lean environmental system, and preparation of an SPCC Plan. Many of the outcomes involved awareness and

> *Businesses reported a number of outcomes, some of which can be directly attributed to the assistance of a P2Rx center.*

behavior changes, such as training of sprayers that led to reduced reworking of the painted products. Some of the reported outcomes can be related directly back to the assistance of the center, while for others the cause of the change is more ambiguous.

Many business representatives noted that their decision to implement P2 is most often motivated by cost savings, although for some P2 is part of their job as environmental managers at their companies, while for others P2 is simply a personal interest. Many say that in general, businesses can most successfully implement education of their employees, as purchasing technologies is a harder sell with their management. Often businesses now are interested in being "green," but they do not want to lose money or be on the "bleeding edge" of technological advances, as one participant pointed out. Table 3-17 summarizes the use of P2Rx information and outcomes attributable to P2Rx center services from business representatives interviewed.

Table 3-17: Interviewed Businesses' Reported Outcomes Attributable to P2Rx

Business Representative	Reported Outcomes
University ES&H Director	Obtained information on many things including volume minimization for chemical labs, replacements for toxic products, identifying strategic planning needs for implementing sustainable strategies. Waste reduction outcomes have not been documented because he lacks the resources.
Dry Cleaner	Starts with the center site when interested in making an environmental change, and the site offers or links to information and contacts that help him implement changes.
Paper Mill Environmental Manager	Reduced tons of waste through byproduct synergy/waste exchange. The center networked the companies together. One outcome was sending expired FDA-approved dyes to a farmer to add to pesticides to see where they sprayed and reduce overspray. There is no benefit to the company in reporting results.
Naval Air Station	Have made some good chemical substitutions, but have not documented outcomes.
Cabinet maker	Lean environmental system provided a payback of over $1 million per year. Substantially increased production efficiency; going from 900 cabinets per day with three shifts, to 1,000 cabinets per day in two shifts without laying off any employees. Results of their value stream mapping/kaizen are documented in Washington Department of Ecology document (pub #06-04-024, final report #07-04-033).
Aerospace Parts Supplier	With information from the center, placed paper in their spray booths to avoid having to clean booths with hazardous solvents, improved maintenance on their electrostatic spray guns for greater efficiency in paint application.
Ski Area Developer	Used materials provided by the center to prepare an SPCC Plan.
Jewelry Maker	Eliminated metal plating process because of the information she received from the center.

3.5.3 TAP Analysis

The primary sentiment from the TAPs concerning outcomes was that they know businesses are changing their practices because they see it on the ground and conduct follow-up with the businesses they have assisted. However, all but one TAP thought it would be nearly impossible to attribute certain outcomes to P2Rx or a particular center. One TAP did indicate that she uses only certain sources for her information and can remember which source certain ideas came from, and could ultimately attribute an outcome to P2Rx if she got the idea from its resources; however, this opinion was the minority. All of the TAPs thought P2Rx had been effective in educating and increasing the knowledge of TAPs, but most felt that the information resources were not necessarily causing the reductions; rather, site visits and training were really causing outcomes. TAPs expressed concerns about drawing a relationship between information resources and having businesses implement P2, and indicated that there seemed to be too many steps between the information and the outcome to be able to tie the outcome back to the information.

TAPs know that businesses are changing their practices, however they consider it difficult or impossible to attribute results to specific information.

The TAPs primarily have anecdotal information from their experience and conversations with businesses to inform their opinions on outcomes. All TAPs seem to do some form of follow-up with their customers, but they vary in the information they are able to collect. One TAP indicated a success rate of almost 100 percent in getting information back on the follow-up visit 6 months after assistance, while others seem to have less formal follow-up procedures or less success in collecting information. This information collection is important, because the TAPs usually must report their outcomes for grant purposes.

TAPs interviewed had mixed opinions on the use of the P2 Results aggregator tool to track their measurements. The focus group participants were largely critical of the tool's usability and usefulness, while some in the interviews thought the tool was helpful for tracking their results. All TAPs indicated that they need to collect and track their results in order to measure their own effectiveness and justify their programs' existence; however many felt that the current tool was difficult to use. Others suggested that the problem did not lie with the tool itself, but rather that the difficulty was in collecting results information from businesses, particularly small businesses who may not track their reductions and changes. Some also expressed concern that the P2 Results tool seemed geared toward bigger businesses and industry, and that it might not be appropriate for reporting the results from small business because of the metrics used.

3.6 Performance Measurement

> **Evaluation Question 8: What performance measures do P2Rx centers need to collect in order to demonstrate/ document client behavior and other outcomes?**
>   a) How would the centers that currently do not have the capacity to make/gather the desired measurements build their capacity?
>   b) How can the information best be collected based on available technology, funds, and survey approval requirements?

Centers currently collect an array of data and other information to help them assess their accomplishments. All of these tools provide useful information and are elements of a comprehensive measurement strategy. There are limitations associated with each, but they all have value. Overall, information about behavior change and other outcomes for end users is less available than for intermediate users.   Information collection includes:

- **Activity Measures**, providing quantitative data on the activity output of each center. In doing so, the number of people reached through these activities (e.g., workshops, etc) is provided. The affiliation of people reached through direct assistance is captured.
- **Web Measures**, providing information on Web site activity, such as number of user sessions.
- **Surveys**, both national and regional, providing quantitative information from respondents on usage patterns, satisfaction, outcomes, and needs, among other things. Surveys are rarely done by the centers, and so the two national surveys are most heavily relied upon.
- **Case studies**, telling a story about particular outcome results achieved as a result of center intervention. While these are anecdotal, they are perhaps the only currently existing mechanism for linking center activity to quantifiable outcomes.
- **User needs assessments,** conducted in various ways and frequencies, providing feedback on topics the centers should focus on. Typically such assessments appear to focus on subject matter more than on ways to convey it or satisfaction of users, and also on intermediate users more than on end users.
- **Pre- and Post-Tests** at conferences and workshops, capturing information about the satisfaction of that particular event at meeting outcome objectives.
- **P2 Results** captures outcome and activity information for purposes of reporting.

It is difficult to estimate the true impact that P2Rx centers have on key outcomes for TAPs or for end users. The design of this evaluation is not able to isolate the affect of P2Rx on the target populations from other factors that may influence the adoption of pollution prevention practices beyond the educated opinions of key informants in the study. Moreover, the informants do not represent a systematic or large enough sample of intermediate or end users to allow us to characterize the average opinions of the target populations. However, we have used the testimony of informants and selected survey results to frame meaningful hypotheses and gain insights about whether and how P2Rx centers fulfill the promise of the logic models.

Information for this section of the report came primarily from centers. Referring to the logic models, one respondent commented that the centers cannot get to "outcomes" because they get stuck at the "customer" column of the logic model. In other words, if they cannot clearly identify their customers, they will never know their outcomes. This is an effective

characterization of the outcomes challenge for the Web-based aspects of the centers. In summary, recipients are known for listserves, workshops, mailings, and direct assistance; while they are unknown for Web access. Even when recipients are known, in some cases they are not compiled and there is often no feedback loop to determine effectiveness. One center commented that now that they have a common logic model, it would be a good exercise to use it to discuss performance measures with the network as a whole.

Clearly, centers' capabilities with respect to measurement fall on a wide spectrum. One center appeared to be doing next to nothing to get information into P2 Results (though they did previously), commenting that it takes active effort and that they do not currently have the staffing to do this. The evaluation findings show that P2 Results is being used primarily as a repository for P2 data collected from P2Rx centers, TAPs, and others, and the cause of the reported P2 results is not captured in the data system by many centers.

In contrast, PPRC said that now more than ever they rely on the P2 Results database. As they do more and more outreach, they will collect more and more information. They do this by making an agreement with the company up front. They may offer an incentive such as waiving a registration fee for a webinar. They then follow up 6 months after the webinar to find out if anything changed. They may waive the fee in exchange for a single number or data point, although they may not always be able to tie the data back causally to the outreach. They view this as an in-kind contribution from the company; center services are free, so they ask for something in return. The fact that Washington requires P2 Planning provides a more highly motivated audience for this type of involvement.

The idea of asking for an in-kind contribution of measurement information as a condition of engagement was raised by two centers. It was also noted that this could be a disincentive to businesses that come to them but can also get the information elsewhere for free.

Zero Waste conducts performance measurement while they are engaged in an activity, rather than conducting surveys. The center feels they lose credibility when they conduct surveys after the fact, and are more effective when evaluation is done as in integral part of the assistance process. While they categorize all of their activities as technical assistance, they broadly define them as workshops, online assistance, telephone assistance, etc., rather than direct, on-site technical assistance. Zero Waste's approach is to deliver P2 training workshops in partnership with a TAP to meet an identified need. During the workshop, attendees participate in exercises to identify their primary waste streams and potential projects, and to practice selling the idea to their company. In this way, Zero Waste is performing a needs assessment for their purposes. Attendees make commitments at these workshops and Zero Waste works with their partners to follow up, usually with a phone call. The follow up is also an opportunity for the center to better target their assistance, as well as to collect case studies. One important distinction of their program is that P2 Results[8] data is collected as part and parcel of the technical assistance service they provide. It is an exchange the business has with the center in return for assistance. The information that the center develops from this interaction can then be more widely

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[8] P2 Results is a data system for collecting, analyzing, and presenting the results of P2 for the regions and the country.

distributed using the Web. The center is interested in sharing its method with other centers to try to capture greater results.

EPA Region 9 (WRPPN) has some unique challenges in that they have numerous local P2 programs, including 35 distinct air districts in California alone, from which they would like to collect information. Many haven't been measuring results at all, and many don't communicate with each other. Further, a vast majority of these programs are not funded by EPA and so are not required to submit measurement information. Some other regions may include states that are predominantly funded by EPA.

It was felt that Rapid Response could be better utilized for measurement. For example, a request for information that comes in via e-mail gives the center an e-mail address they can use for follow-up to gather outcome information. Another idea is to do a pre- and post-test series of questions when assistance is provided. A protocol for the entire network would be helpful here for consistency. NEWMOA has a good precursor data gathering system that would gather data from Rapid Response to go into P2 Results. They also have a tool that makes it easier for TAPs and others to track their information and feed into P2 Results.

To define a good measure for efficiency, EPA needs to determine what the priority is for their grant expenditures – for example, whether intermediate outcomes are sufficient, or if long-term outcomes are the priority, whether it is important to see reduction in all states, for both small and large business, etc., or just to see gross size of reductions. If the latter, centers will focus exclusively on the areas most likely to experience waste reductions.

Some TAPs suggested ways that they might be able to better capture the effect of the information provided by P2Rx. One suggestion involved adding questions to their exit interview or follow-up that address whether the business used P2Rx resources. Another suggestion involved having the interns who work for the assistance program track the resources they use in a bibliography, and measure how frequently they use P2Rx resources, for what purposes, and to what end.

A TAP participant in a focus group suggested that as information providers, P2Rx should benchmark themselves against industry standards by comparing themselves to other similar information providers. Another TAP suggested having a box on the Web site that said "if you've accessed information on this Web site, would you mind leaving your e-mail address so we can contact you and see how you've used it?"

A comprehensive and effective evaluation mechanism that examines causality will need to involve all three entities: the P2Rx center, the TAP, and the end user, eliciting information from each of these groups.

4 Conclusions and Recommendations

The following conclusions and recommendations are based upon the facts and opinions offered by key informants, existing data and documentation, and the professional knowledge of the Abt Associates' evaluators. Strategies that have been used by centers with reasonable evidence of success are included in the recommendations for others to consider. Other recommendations are based on our expert judgement as applied to the data, facts and opinions provided through the evaluation. Several recommendations address aspects of multiple questions and they are repeated in the context of the evaluation question. The results are grouped together by broad themes, as well as by that theme's corresponding evaluation question(s). The evaluation questions are included in parentheses.

4.1 Center Operation Models (Question 1)

Evaluation Question 1
1) *What model(s) do the P2Rx centers use to encourage exploration and adoption of P2 practices?*
   a) *How are centers currently operating and what model(s) are they using to disseminate information?*
   b) *Which of the centers' model(s) is most efficient in information sharing and/or delivery?*
   c) *When comparing among centers, what opportunities for centers' information delivery to become more efficient are observed?*
   d) *What opportunities are there for centers to become more efficient in information delivery by sharing tasks?*

The centers use a wide variety of models to fulfill the mission of P2Rx. Variation exists in organizational structure, physical location (e.g., co-located with a TAP, university, or regulatory agency), size of staff, availability of resources, sources and use of funding, activity emphasis, and customer base.   With this variation, each center possesses different qualities and meets their objectives in ways that are both unique and similar, depending on the element. The evaluation is inconclusive as to which single model may be most efficient but indicates that an eight-center network is an effective method to reach the network's objectives. P2Rx as an interactive network does appear to strengthen the abilities of any single provider, but there are also inherent inequalities. Overall, as an information "wholesaler" with responsibility for compiling and providing information to more localized entities (e.g., TAPs), a regional model for the centers does appear to be effective. The existence of a national network makes it possible for the centers to deliver more and better information to their customers, as the centers can focus on unique regional needs while tapping into national resources. The centers do have strong and constructive relationships with organizations and individuals within their region.

Considerable efficiency has been gained over the years in centralizing certain functions in one or two centers. Successful examples include the case study database supported by Zero Waste, centralized IT support for certain activities and overall Web site maintenance, the centralized management of the Programs Database, and of course the library at WRRC. Web

support and programming was cited as an obvious opportunity to centralize so that the network capitalizes on the strength of certain centers' IT expertise. For the most part, this seems to be working well and to be enthusiastically supported by center staff. One observation is that it is not clear if or how a center is compensated for taking on a particularly labor-intensive task, or if resource limitations could be a disincentive for doing so. Further, there may be an inherent contradiction in sharing tasks in order to gain efficiencies. For example, if services or functions are centralized in a particular center (e.g., library services or Web support), that center will be using a greater portion of their resources supporting that centralized function. The result may be that they are less able to do other functions, such as providing direct assistance to businesses, or possibly to measure outcomes.

Recommendations

- P2Rx should continue to work together as a network of distinct programs, and should share responsibilities where appropriate as well as centralize tasks where appropriate. Continue to make well-reasoned decisions about what tasks are best suited to be done in a centralized way. Specifically, there appears to be benefit in centralizing the functions for collecting case studies, maintaining the Programs Directory, performance measurement, and some of the coding responsibilities.
- It is an understandable concern that the centers spend considerable time communicating with one another, an activity that could impinge on the time they have to spend reaching out to end users. To some extent this is a necessary part of networking. However, communication should be value-added and done efficiently. Suggestions include the use of facilitators, limits on the number of conference calls, and setting clear objectives for each meeting.
- Consider making the PPIN grant process more streamlined and/or award multi-year grants. This would reduce the time centers spend on writing proposals and allow for longer-range activity planning.

4.2 P2Rx Information Users (Question 2)

Evaluation Question 2
2) *What groups/types of customers access P2Rx information?*
   How do the customers vary according to method of outreach by the centers?
   - *Via the Web site*
   - *Via TAPs*
   - *Via direct contact (e.g., telephone, correspondence, or other communication)*
   - *Via P2Rx workshops, trainings, and regional meetings*

The evaluation characterized the groups of customers that access P2Rx information, but was not able to determine how the groups or types of customers vary according to the method of outreach by the centers. Some determinations about the customers of P2Rx can be made based on the data reviewed for the evaluation. Information that would characterize the users of the Web sites, TAPs, telephone or e-mail correspondence, or face-to-face sessions, either does not exist or has not been collated.

Through interviews we learned that businesses access P2Rx information primarily via Web sites, direct contact, or training sessions. Data available from Activity Measures show listserves and newsletters going out to the largest number of customers, as compared to meetings and direct contact. Information on the identity of these recipients is kept by some centers, but not across the network. The same is true for Activity Measures, which show number of meetings and number of attendees at meetings but does not capture the identity of attendees. Web measures do not capture the type of user, but do show a significant increase in usage of the Web site over the years. 2007/2008 Behavior Survey data gave an indication of the types of users that were using the P2Rx Web sites, and how they were using them. Activity Measures show that the majority of customers for direct contact are from government, but with a declining percentage of requests from government entities, and an increasing percentage of business and industry requests. In contrast, the 2007/2008 Behavior Survey shows more than twice as many TAPs using the P2Rx Web sites than businesses. Overall, this information is inconclusive in responding to the evaluation question.

Recommendations

- Use a consistent method of characterizing customers for all of P2Rx. Identification according to the two groups used in the 2007/8 Behavior Survey is recommended, as it addresses how the customer uses P2Rx and not just who they are. If an additional level of detail is desired, affiliation can be used as subcategories.
- Rapid Response (and other telephone or e-mail-based on-demand services) offers a valuable opportunity to capture, tabulate and analyze information on types of customers and types of request. Centers should collect and analyze information on the identity of these customers. Some centers already collect this information, but it does not appear to be analyzed. Centers that do not currently capture this information should consider doing so.
- Characterize and analyze the identity of conference attendees. While the number of attendees is captured for the P2Rx Activity Measures, the identity of these participants is not examined in a comprehensive way.
- Make the Web sites more interactive so that centers can gather information to characterize their users. Many centers suggested this. Ideally, this would be interactive so that users can also indicate what product they are using. The most popular suggestion that came from several centers was to place a pop-up on the Web site asking a single question, such as what sector or audience segment the user belongs to. Their usage would then be tracked using a cookie. This would allow the center to identify their user group, as well as track their repeat usage. Without follow-up the centers still wouldn't know about impact, but they would know about reach. This recommendation would, however, require the centers to invest more resources in changing their Web structure, as well as tracking users.
- Require or offer registration for use of the site. This would provide the center with information they could use to identify their users and follow up with them. Consideration can be given to have registration for discrete parts of the site rather than the entire site.

4.3 Usefulness of P2Rx Products (Questions 3 and 4)

Evaluation Questions 3 and 4

3) *What products, services, and content do businesses need to make a decision/consider the adoption of P2 practices?*
   a) *Are the centers providing the right products, services, and content to businesses to promote the adoption of P2 practices?*
4) *What products, services, and content do TAPs need to promote businesses' adoption of P2 practices?*
   c) *Are the centers providing the right products, services, and content to TAPs to promote the adoption of P2 practices by businesses?*

Businesses expressed three main priorities in their information needs:
- Up to date technical content that is easy to find on the Web using search engines and is organized by process, topic or technology in addition to by sector
- Information on cost of alternatives, viable substitutes, product-specific vendor information, military prohibitions, and case studies and success stories.
- Services to help them with the cost and technical aspects of implementing P2, ways to address or preclude regulatory requirements, and networking opportunities.

TAPs expressed three main priorities in their information needs:
- Up-to-date information with working links, maintaining the existing sector-orientation;
- Help with marketing and "selling" P2 to their customers; and
- Assistance with measurement of P2 effectiveness and cost savings.

While many centers do have well-established networks with TAPs and other stakeholders to determine customer needs and whether the centers are meeting them, it is neither systematic nor consistent across centers. Further, more feedback mechanisms exist for TAPs and government entities than for industry. The information obtained from the evaluation, particularly the interviews and survey results, indicates that the centers appear to be providing some of the right products, services and content to businesses to promote P2, but the information is anecdotal. There exist numerous opportunities to address customer needs further and to provide more useful and appropriate products, services, and content.

Recommendations

- Make better use of steering committees, advisory boards, board of directors, and/or state or regional roundtables or other stakeholder groups to solicit information about needs and whether needs are being met by P2Rx. This should have two key components: (1) an attempt should be made to do this more consistently across centers, possibly having a core set of questions that are asked and an agreed-upon periodicity; and (2) questions should include those regarding effectiveness, not just priorities and needs. This will primarily provide information from intermediate users.
- If P2Rx does, in fact, want to be able to address more directly the needs of end users, a consistent network-wide mechanism must be established to identify these needs. Mechanisms for collecting information from end users may include:

- o Collecting info from Rapid Response and other on-demand services as a way to evaluate need. This opportunity should be exploited by all centers to characterize the needs of the user community, and possibly hone in on repeat requests that can be addressed system-wide.
  - o As a way to gauge the usefulness of products, and possibly in addition to collecting more user information, use a pop-up window on the Web sites to ask a single question of the user after they access a particular resource to learn if it met their needs (e.g. "How useful was this fact sheet to you?").
  - o Conduct a survey or focus groups of a particular, well-defined, user group to determine their needs.
  - o Use the recurring process implemented by Zero Waste, i.e., use assistance providers to identify needs and develop tools, conduct a workshop, obtain commitments for action from attendees, follow up six months later, and collect results information. The information from the workshop is placed on the Web for broader market penetration. This model can be used for either an end-user an intermediate-user audience.
- If the emphasis is, in fact, on providing services to end-users, the information on the center Web sites needs to be redirected toward process rather than organized by sector based on the findings of this evaluation.
- If the emphasis is on providing services to TAPs, maintain the existing sector-orientation. Add information that would help them persuade businesses to adopt P2, and a measurement tool.
- Expend adequate resources to keep information up-to-date on center Web sites.

4.4 Adoption of P2 Practices by Businesses (Question 5)

Evaluation Question 5
9) *To what extent do businesses that use P2Rx centers change their practices or adopt P2 practices?*
   a) *Do businesses use P2Rx information as a resource to solve pollution problems or to help them adopt P2Rx practices?*
   b) *What causes/influences businesses to seek P2Rx information?*

The evaluation provided an indication that businesses use information and services from P2Rx to change their awareness and practices, leading to environmental outcomes. Survey results and case studies are currently the best source of information to examine this nationally. Interviews for this evaluation identified several cases in which businesses claimed to have changed practices as a result of using P2Rx information; however, this evidence is not well documented. The evaluation did determine that although some businesses use P2Rx information as a trusted resource for solving pollution problems, they use many other resources as well, making it difficult to attribute results to P2Rx. The causes for business to seek P2Rx information are the same as those that cause them to seek any P2 information, i.e., cost savings, need for safer substitutes, responding to customer demand, regulatory compliance, etc. Overall, the design of this evaluation was not able to isolate the affect of P2Rx on the

target populations from other factors that may influence the adoption of pollution prevention practices.

Recommendations

- Continue to collect case studies. Consider compiling and tabulating them to show cumulative cause and effect of center activities. However, reliance on information collected as a result of direct assistance to end users will have limitations with respect to the number of customers reached and the resulting quantity of outcomes.
- Perform follow up with the target audience to determine if approaches are effective at making change happen. This can be follow up from Rapid Response-type intervention, workshop attendance, or any other venue where you know the identity of the customer. P2Rx should develop some standard protocols to be used by all centers.
- Collect outcome information *as part of* the activity to best engage the captive audience. This can be done by collecting information from workshop participants or asking for a commitment to action. This model is used by Zero Waste.
- Dedicate discrete resources to do follow up for activities. At their discretion, the centers might consider hiring an individual to support the entire network as another shared activity.

4.5 Outreach to Businesses Directly and Through TAPs (Questions 6 and 7)

Evaluation Questions 6 and 7
6) *Are the centers effective in reaching businesses through TAPs?*
    a) *What do centers do to reach businesses through TAPs?*
    b) *Can any outcomes (short-term, intermediate, or long-term) be attributed to information received from P2Rx centers?*
7) *Are the centers effective in reaching businesses directly?*
    a) *What do centers do to reach businesses directly?*
    b) *Can any outcomes (short-term, intermediate, or long-term) be attributed to information received from P2Rx centers?*

While EPA has directed the centers to shift their focus to targeting businesses and other end users, the centers are implementing this to a greater or lesser extent across the network. There does not seem to be a clear delineation between how centers reach businesses directly as opposed to through TAPs. Some of the centers are TAPs as well. For many, the TAP/center interaction worked well, leveraging resources and expertise to effectively serve the end user.

The evaluation concludes that centers more effectively serve intermediate customers than end users for the following reasons:
- Not all centers have the resources (technical and/or financial) to provide assistance directly to end users. In many cases it is considered out of scope or not a part of their stated mission. In these cases, or unless the emphasis is *removed* from serving the TAP community, additional resources would seem to be needed for such a retooling.

- Serving end users would appear to duplicate the work of the TAPs. This should be considered in the context of efficient use of government funds, as well as the specific niche intended to be filled by each of these two sets of service providers. While there appears to be some reluctance to work with TAPs when they are connected to a regulatory agency, this does not seem to be a major concern. One of the P2Rx centers also resides within a regulatory agency.
- In general, the interplay between the centers and TAPs appears to be highly effective, i.e., the centers as researchers and information providers, and the TAPs to provide end users with useful information for implementation.
- Businesses clearly see benefits in using P2Rx services. This would seem inevitable with a resource as rich as P2Rx. The question should be asked if that means the centers should actively *direct* their efforts towards end users, as opposed to it being a fortunate, but passive, side benefit.
- The network does not have adequate tools in place to characterize the end user audience, determine its needs, or determine if P2Rx is providing the right products, services and content to them. Obtaining this information from end users is more difficult than from intermediate users, and may require an ICR.
- All centers currently focus on intermediate users, but only a portion of them direct their efforts to any degree to end users.
- Similarly, the recommendation from the 2002 Customer Satisfaction Survey was to focus on the primary audience of technical assistance providers.

In general, the centers are more effective at reaching businesses through TAPs. For determining effectiveness on long-term performance measures, however, it is simpler to get results directly from businesses as opposed to trying to measure the effectiveness of reaching businesses *through* TAPs. If the centers would like to better reach end-users, findings suggested the centers should better promote their services in business-oriented forums. The fact that the centers were a neutral, non-regulatory entity encourages businesses to seek them out.

Conclusions regarding Outcomes are addressed under Question 5 above.

Recommendations

- Continue to *focus* on intermediate users rather than on end users. Work with end users as a secondary audience as appropriate for each individual center.
- If interested in reaching the end user, promote and market center resources more widely and beyond the usual venues. For example, advertise in business journals or on business Web sites, attend business meetings and workshops in addition to or in place of P2Rx-sponsored events.

4.6 Performance Measurement (Question 8)

Evaluation Question 8

8) *What performance measures do P2Rx centers need to collect in order to demonstrate/ document client behavior and other outcomes?*
    a) *How would the centers that currently do not have the capacity to make/gather the desired measurements build their capacity?*
    b) *How can the information best be collected based on available technology, funds, and survey approval requirements?*

Centers' capabilities to measure performance vary widely, however it is clear that additional capacity is needed to establish a robust network-wide system of measurement. Individual centers have different capacity to perform measurement based on their staffing and other factors. For example, Zero Waste and PPRC have better capacity to obtain outcome information from Texas and Washington due to the P2 Planning requirements in those states. The P2 Results system is considered to be useful by some stakeholders, but not by others. Centers have conducted surveys, both in person and online, of various audiences for various purposes over the years. Conference pre- and post-surveys can provide an indication of the effectiveness of that particular event and perhaps the future needs of the audience. However, questions about outcomes can only be answered prospectively, unless follow up is conducted. The usefulness of national or regional surveys such as those that have been conducted of users at various times will vary depending on how they are conducted, how many respond, the ability to characterize the respondents, and what is done with the results. The recently conducted 2007/2008 Behavior Survey is useful, but it cannot be said to be reliably representative of the customers of P2Rx. The findings show that short-term and intermediate outcomes are more clearly influenced by the centers, but final outcomes are extremely difficult to assess.

Recommendations

The two tables below present recommendations for improving the usefulness of existing measures and gathering new measures to better assess the centers' performance.

Table 4-1: Recommendations for Existing Measures

Existing Measure	Description	Recommendations and Affected Outcomes
Activity Measures	Currently collect: • Technical Assistance Requests—number, type of organization, and location • Newsletters—number • Listserves—number and number of subscribers • Meetings/trainings organized—number and number of attendees • Meetings attended and talked about P2Rx—number and number of attendees • Regional conference calls—number	• Continue to collect Activity Measures ⇒ *Defines Outputs and some Customers* • For Newsletters, Listserves and Meetings, identify recipients/ attendees using commonly agreed upon identifiers ⇒ *Defines Customers* • For Technical Assistance Requests, use contact information to conduct follow up ⇒ *Defines Outcomes*
Web Measures	Currently collect: • User sessions	• Continue to collect Web Measures ⇒ *Defines Outputs*

	• Page views • Visitors that visit more than 10 times • User sessions for specific products	• Identify user with a single question upon entry – or – via registration ⇒ *Defines Customers* • Use cookies to track which pages these users view ⇒ *Links Outputs to Customers* • Attach cookies to a pre- and post-test for users. If someone accesses a document, for example, they can be asked "Was this information useful to you? Yes/No." ⇒ *Links Customers to Short-Term Outcomes*
Case Studies	Currently collected to varying degrees among centers. P2RIC and Peaks to Prairies currently contribute to Zero Waste's case study database	• Continue to collect case studies ⇒ *Defines Activity, Output* • Consider summarizing the activities and customers and tabulating the quantitative data to show cumulative cause and effect of center activities ⇒ *Links Customers to Outcomes (with causality)*
P2 Results	Centers currently conduct or facilitate data entry from others	• Enhance P2 Results so that the results reporting by TAPs and others can be attributed to specific center activities. Recommend a more in-depth analysis of P2 Results to generate detailed recommendations ⇒ *Intermediate and Long-Term Outcomes (with causality)*
National Surveys	Currently have results of two National Surveys	• Conduct center-specific analysis on 2007/2008 Behavior Survey ⇒ *Customers and Outcomes*
User Needs Assessments	Currently conducted to varying degrees among centers	• Survey established stakeholder groups periodically and consistently (NEWMOA model), or assess needs during workshops (Zero Waste model). In either case, standardize questions to obtain needed information
Pre- and Post-Conference Surveys	Currently conducted to varying degrees among centers	• See below

Table 4-2: Recommended New Measures

Recommended Measures	Recommendation and Affected Outcomes
Pre- and Post-Conference Surveys	• Standardize use of pre- and post-test surveys at conferences and workshops for all centers • Ask respondents to identify themselves by two groups, similar to what was used in the 2007/2008 Behavior Survey

	⇒ *Defines Customers* • In addition to asking questions about the effectiveness of the specific event (for center use), ask general and standard questions about needs and recommendations for P2Rx as a whole ⇒ *Short-Term Outcomes, Needs Assessment* • Have questionnaires be collected by EPA and analyzed. ⇒ *Defines Customers, Short-Term Outcomes, Needs Assessment Network-wide* • Conduct follow up with attendees to record changes ⇒ *Intermediate and Long-Term Outcomes*
National and Regional Surveys	• Conduct a random assignment survey of a specified target population • Note: May be used to provide a probability sample and would allow more statistically valid inferences to be drawn from the survey. Would likely require an ICR. ⇒ *Short-Term, Intermediate, Long-Term Outcomes*
Pre- and Post-Outreach Surveys	• Provide a resource to an established group of people (e.g., partners) that has agreed to provide results information. For example, a particular information packet can be distributed to a partner audience (e.g., schools in a state or district, businesses in a consortium) whose identities are known. Develop boilerplate language for agreements. • Care should be taken in this case to address potential bias, and ideally a control group would be used of similar individuals who did not receive the resource. • Survey the audience pre- and post-assistance ⇒ *Short-Term, Intermediate, Long-Term Outcomes*
Measurement Prerequisite	• Require a commitment to measure as a precondition of any provision of services, as some centers are already doing or considering ⇒ *Long-Term Outcomes*
Direct Contact Follow up	• Perform follow up with all customers for whom contact information is known to gather outcome information (e.g., Rapid Response and other telephone or e-mail based on-demand services). Attempt to make this an intrinsic part of the activity for maximum resource efficiency. ⇒ *Short-Term, Intermediate, Long-Term Outcomes*

Other recommendations:
- Conduct further study to determine how similar information providers measure their performance. This was initially proposed to be covered in this evaluation, but was ultimately excluded from the scope of the study. Several potential sources of information are cited in the literature review developed by Fred MacVaugh for P2RIC, including work done by the Centers for Disease Control and United Way. These organizations and others, such as university extension programs, have examined ways to link information dissemination with behavior change and other related outcomes.
- Do not hesitate to capture behavior change or other intermediate outcomes if ultimate outcomes are not available. Behavior changes can be assumed to be correlated in a general way with long-term outcomes, even if these outcomes are not quantified.

Appendix A – Center Logic Models

During the interviews conducted by Abt Associates, center directors were consulted regarding the generic P2Rx Logic Model, and whether the Resources, Activities, Outputs, and Customers listed in the generic Logic Model applied to their particular programs. Outcomes were not included as part of this discussion. The product of this consultation is a collection of eight center-specific logic models that show the emphasis each center places on certain logic model components.

The following is a key to the color-coding used in each of the logic models:

<u>Bold Underline</u>:   a center's most important resource, activity, output, or customer

Bold Font: an important resource, activity, output, or customer

Normal Font: a component that the center does, but does not emphasize

Gray Font: a component that the center does not use, do, or produce

Green Font: a component added by the center and not included on the generic logic model

Northeast Waste Management Officials' Association (NEWMOA) Logic Model—Information Dissemination

Mission: To develop and sustain an effective partnership of states to explore, develop, promote, and implement environmentally sound solutions for the reduction and management of materials and waste, and for the remediation of contaminated sites, in order to achieve a clean and healthy environment.

Resources	Activities	Outputs	Customers	Outcomes

Resources

Funding
- EPA PPIN
- State PPIN Match
- Other State / Local Funding (future)
- EPA R1 SRAP

Expertise / Skills
- Staff Skills
- P2 Knowledge
- Technical and Web Expertise

Partners
- National P2Rx
- Regional States
- Boards of Directors / Committees
- Academia

Activities

- Conduct evaluation and measurement
- Create and conduct trainings and seminars
- Provide and participate in networking opportunities
- Provide technical assistance
- Design and maintain websites
- Collect and produce information resources and content
- Market resources
- IT Tool Development

Outputs

- P2 Results
- Case studies of successes

- Trainings, seminars, conferences

- Partnerships
- Listservs
- Conferences / Roundtables
- Conference calls / meetings

- Technical Response (e.g. Rapid Response)

- Center websites
- Ancillary websites

- Topic Hubs
- Newsletters
- Case Studies (compile)
- Databases
- Innovative P2 Tech Profiles
- P2 News
- Calendar

- Marketing materials

- IT Tools

Customers

Other Centers

Intermediate
- TAPs
- Local / State Governments
- Non-Profit Organizations
- University Technical Centers
- Business Associations

Final
- Industry
- Businesses
- Utilities
- Schools
- Local / State Governments
- Other

Outcomes

Short-term: Improvements in information content, delivery, sharing, and access

Inter-mediate: Capacity to provide P2 resources and services is enhanced

Short-term: Increased awareness of P2

Inter-mediate: Implementation of P2 plans and practices

Long-term

Content of, access to, and delivery of P2 information and assistance is efficient and of high quality

Cost savings for final customers

Reduced energy use, water use, natural resource use, and waste produced

*Activities done with funding other than PPIN

Feedback for improved quality, access, and delivery of P2 information and assistance

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Waste Reduction Resource Center (WRRC) Logic Model—Information Dissemination

Objective: To provide technical Pollution Prevention (P2) information and training to industrial service providers in EPA Region IV.
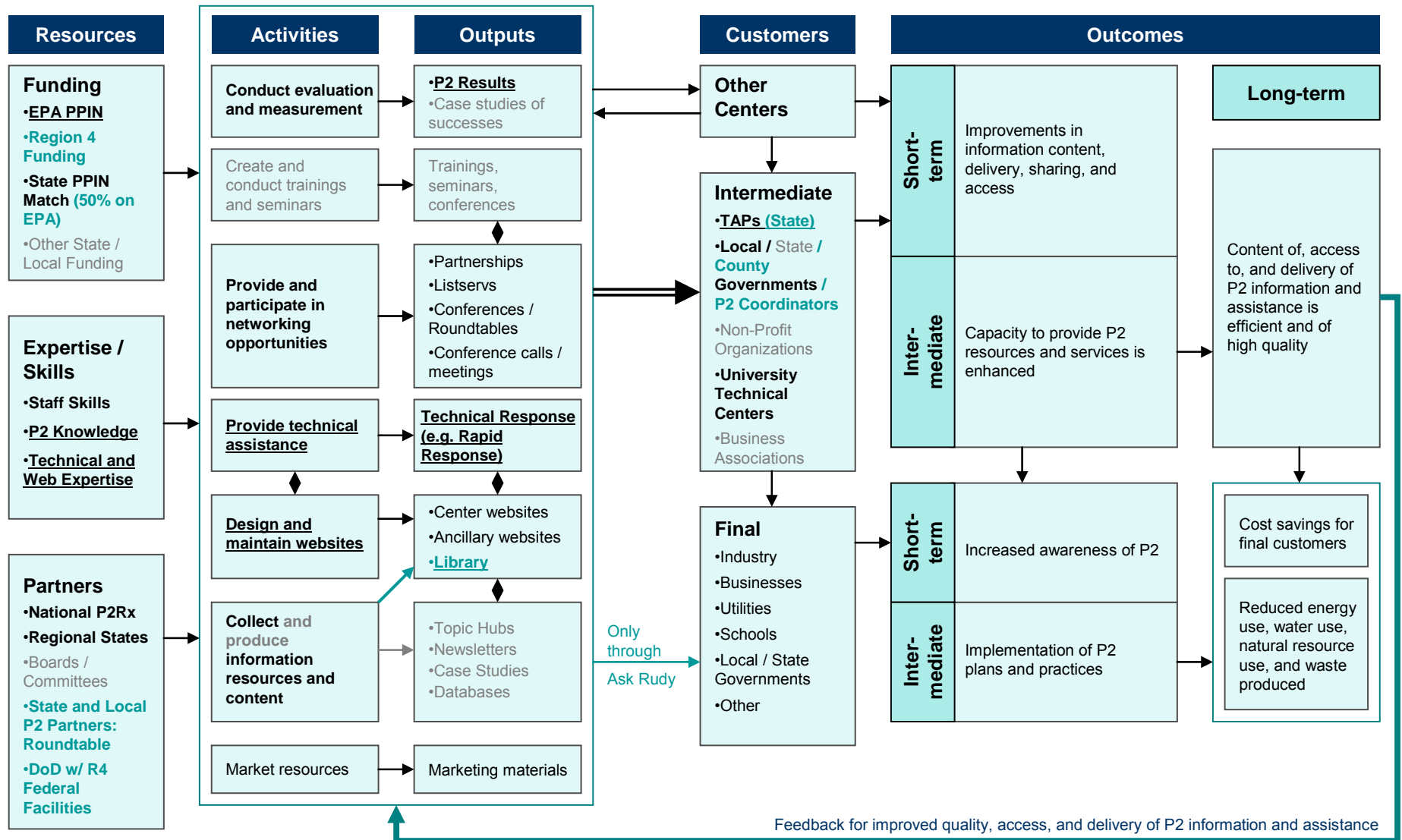
*Based in a state regulatory program

Great Lakes Regional Pollution Prevention Roundtable (GLRPPR) Logic Model—Information Dissemination

Mission: The Great Lakes Regional Pollution Prevention Roundtable (GLRPPR), is a professional organization dedicated to promoting information exchange and networking to pollution prevention (P2) professionals in the Great Lakes regions of the United States and Canada.

Resources

Funding
- **EPA PPIN**
- **State PPIN Match (Staff)**
- Other State / Local Funding
- **SRAP from R5**

Expertise / Skills
- **Staff Skills**
- **P2 Knowledge**
- **Technical and Web Expertise**

Partners
- **National P2Rx**
- **Regional States**
- **Boards / Committees (multiple stakeholders)**
- **University of Illinois**

Activities

- **Conduct evaluation and measurement**
- Create and conduct trainings and seminars
- **Provide and participate in networking opportunities**
- **Provide technical assistance**
- **Design and maintain websites**
- **Collect and produce information resources and content**
- Market resources

Outputs

- **P2 Results**
- Case studies of successes
- Trainings, seminars, conferences
- **Partnerships**
- **Listservs**
- **Conferences / Roundtables**
- **Conference calls / meetings**
- Technical Response (e.g. Rapid Response)
- **Center websites**
- **Ancillary websites**
- **Topic Hubs**
- **Newsletters**
- Case Studies
- **Databases**
- News
- Library
- Marketing materials

Customers

Other Centers

Intermediate
- **TAPs (WMRC)**
- Local / State Governments
- Non-Profit Organizations
- University Technical Centers
- Business Associations (PNEAC)

Final
- Industry
- Businesses
- Utilities
- Schools
- Local / State Governments
- Other

Only on Ad-Hoc Basis

Outcomes

Short-term: Improvements in information content, delivery, sharing, and access

Intermediate: Capacity to provide P2 resources and services is enhanced

Short-term: Increased awareness of P2

Intermediate: Implementation of P2 plans and practices

Long-term

Content of, access to, and delivery of P2 information and assistance is efficient and of high quality

Cost savings for final customers

Reduced energy use, water use, natural resource use, and waste produced

Feedback for improved quality, access, and delivery of P2 information and assistance

*Co-located w/ WMRC (TAP)—transitioning to become part of University of Illinois

The Southwest Network for Zero Waste Logic Model—Information Dissemination

Mission: The Southwest Network for Zero Waste is dedicated to protecting the environment by helping companies become more efficient. We supply tools to reduce production costs by lowering environmental impact. It's a win-win, non-regulatory approach that benefits everyone.

Resources

Funding
- EPA PPIN
- State PPIN Match
- Other State / Local Funding and State Contracts
- In-Kind Match for Services and Funds
- Leveraged Federal Funding

Expertise / Skills
- Staff Skills
- P2 Knowledge
- Technical and Web Expertise
- State and Federal Databases
- Participating Businesses

Partners
- National P2Rx Network
- Regional States
- Advisory Boards / Committees / Roundtables
- Military
- University
- Volunteers
- Regional Consortia

Activities

Conduct evaluation and measurement

Create and conduct trainings and seminars

- Provide and participate in networking opportunities
- Strategic Planning

Provide technical assistance

Design and maintain websites

Collect and produce information resources and content; assess needs

Market resources

Outputs

- P2 Results
- Case studies of successes

Trainings, seminars, conferences

- Partnerships
- Listservs
- Conferences / Roundtables
- Conference calls / meetings

Technical Response (e.g. Rapid Response)

- Center websites
- Ancillary websites

- Topic Hubs
- Newsletters
- Case Studies
- Databases

Marketing materials

These two audiences are reached simultaneously, although there are different strategies for involving them.

Customers

Other Centers

Intermediate
- TAPs
- Local / State Governments
- Non-Profit Organizations
- University Technical Centers
- Business Associations
- Pretreatment Programs

Final
- Industry
- Businesses
- Utilities
- Schools
- Local / State Governments
- Military

Outcomes

Short-term
Improvements in information content, delivery, sharing, and access

Inter-mediate
Capacity to provide P2 resources and services is enhanced

Short-term
Increased awareness of P2

Inter-mediate
Implementation of P2 plans and practices

Long-term

Content of, access to, and delivery of P2 information and assistance is efficient and of high quality

Cost savings for final customers

Reduced energy use, water use, natural resource use, and waste produced

Feedback for improved quality, access, and delivery of P2 information and assistance

*Located at a University

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Pollution Prevention Regional Information Center (P2RIC) Logic Model—Information Dissemination

Mission: Pollution Prevention Regional Information Center (P2RIC) strives to improve resource sharing between the programs, businesses, and agencies of EPA Region 7 (Iowa, Kansas, Missouri, Nebraska) that provide waste reduction services and expertise to business and industry.

Resources	Activities	Outputs	Customers	Outcomes

Funding
- EPA PPIN
- State PPIN Match
- Other State / Local Funding
- In-Kind Match from NGOs, TAPs, etc
- Revenue

Expertise / Skills
- Staff Skills
- P2 Knowledge
- Technical and Web Expertise
- Science Expertise

Partners
- National P2Rx
- Regional States and Local P2 Programs
- Boards / Committees
- Regional Roundtable

Activities
- Conduct evaluation and measurement
- Create and conduct trainings and seminars
- Provide and participate in networking opportunities
- Provide technical assistance
- Design and maintain websites
- Collect and produce information resources and content
- Market resources

Outputs
- P2 Results
- Case studies of successes
- Trainings, seminars, conferences, lectures, podcasts
- Partnerships
- Listservs
- Conferences / Roundtables
- Conference calls / meetings
- Technical Response (e.g. Rapid Response)
- Center websites
- Ancillary websites
- Topic Hubs (updates)
- Newsletters
- Case Studies
- Databases
- News
- Marketing materials
- Event Publicity

Other Centers

Intermediate
- TAPs
- Local / State Governments
- Non-Profit Organizations
- University Technical Centers
- Business Associations
- Industry consortia
- Chamber of Commerce

Final
- Industry
- Businesses
- Utilities
- Schools
- Local / State Governments
- Other
- Universities

Short-term: Improvements in information content, delivery, sharing, and access

Inter-mediate: Capacity to provide P2 resources and services is enhanced

Short-term: Increased awareness of P2

Inter-mediate: Implementation of P2 plans and practices

Long-term: Content of, access to, and delivery of P2 information and assistance is efficient and of high quality

Cost savings for final customers

Reduced energy use, water use, natural resource use, and waste produced

Feedback for improved quality, access, and delivery of P2 information and assistance

*Based in a Business Development Center at a University

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Peaks to Prairies Logic Model—Information Dissemination

Mission: In cooperation with EPA Region 8 states, Peaks to Prairies encourages adoption of pollution prevention practices by citizens, small businesses, and local governments. The Center offers access to current information and contacts, encourages collaboration and leveraging of resources between programs, and builds information systems to enhance information dissemination.

Resources	Activities	Outputs	Customers	Outcomes

Resources

Funding
- **EPA PPIN**
- •State PPIN Match
- **•Other State / Local Funding (Montana PPIS)**
- **•Occasional Grants (EPA and other)**

Expertise / Skills
- **•Staff Skills (Program management / product development)**
- •P2 Knowledge
- **•Technical and Web Expertise**

Partners
- **•Montana State University**
- **•National P2Rx**
- •Regional **State P2 Programs**
- •Boards / Committees
- **•National P2 Roundtable**
- **•National Tribal P2 Workgroup**

Activities

- **Conduct evaluation and measurement**
- Create and conduct trainings and seminars
- Provide and participate in networking opportunities (Tribal and Parks)
- Provide technical assistance
- **Design and maintain websites**
- **Collect and produce information resources and content**
- Market resources (distribute)

Outputs

- •P2 Results
- •Case studies of successes

- Trainings, seminars, conferences

- **•Partnerships**
- **•Listservs**
- •Conferences / Roundtables
- •Conference calls / meetings

- Technical Response (e.g. Rapid Response)

- **•Center websites**
- **•Ancillary websites**

- **•Topic Hubs**
- **•Newsletters**
- **•Case Studies**
- **•Databases**
- **•Toolkits**

- **Marketing materials**

Customers

Other Centers

Intermediate
- **•TAPs**
- **•Local / State / Federal Governments**
- •Non-Profit Organizations
- •University Technical Centers
- **•Business Associations**
- **•Consultants**

Final
- •Industry
- •Businesses
- •Utilities
- **•Schools**
- **•Local / State Governments-- Parks**
- **•Home builders, architects, home owners**
- **•Tribal Government**

Outcomes

Short-term: Improvements in information content, delivery, sharing, and access

Inter-mediate: Capacity to provide P2 resources and services is enhanced

Short-term: Increased awareness of P2

Inter-mediate: Implementation of P2 plans and practices

Long-term:
Content of, access to, and delivery of P2 information and assistance is efficient and of high quality

Cost savings for final customers

Reduced energy use, water use, natural resource use, and waste produced

Feedback for improved quality, access, and delivery of P2 information and assistance

*Based in University

*Focus on Tribes, Parks

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Western Regional Pollution Prevention Network (WRPPN) Logic Model—Information Dissemination

Mission: The Western Regional Pollution Prevention Network (WRPPN) is a strategic alliance involving local, state, federal and tribal pollution prevention (P2) programs throughout EPA Region 9. WRPPN was established in 1997 by the U.S. Environmental Protection Agency to improve communication and information dissemination among network members to maximize efficiency of P2 implementation.

Resources

Funding
- EPA PPIN
- State PPIN Match (Office Space)
- Other State / Local Funding
- Partnership Program Grant

Expertise / Skills
- Staff Skills
- P2 Knowledge
- Technical and Web Expertise

Partners
- National P2Rx
- Regional States
- Boards / Committees
- California Consortium of P2 Committees
- Green Business Programs

Activities
- **Conduct evaluation and measurement**
- **Create and conduct trainings and seminars**
- **Provide and participate in networking opportunities** With TAPs and National P2Rx
- **Provide technical assistance**
- **Design and maintain websites**
- **Collect and produce information resources and content**
- **Market resources via listserv**

Outputs
- **P2 Results**
  - Case studies of successes
- **Trainings, seminars, conferences, webinars**, subject – specific committees
- Partnerships
- Listservs
- Conferences / Roundtables
- Conference calls / meetings
- Technical Response (e.g. Rapid Response)
- Center websites
- Ancillary websites
- Topic Hubs
- Newsletters
- Case Studies
- Databases
- Specialty Projects
- Marketing materials

Customers

Other Centers

Intermediate
- TAPs
- Local / State Governments
- Non-Profit Organizations
- University Technical Centers
- Business Associations
- International (Mexico)

Final
- Industry
- Businesses
- Utilities
- Schools
- Local / State Governments
- Universities
- DoE

Primarily through conference attendance

Outcomes

Short-term: Improvements in information content, delivery, sharing, and access

Inter-mediate: Capacity to provide P2 resources and services is enhanced

Short-term: Increased awareness of P2

Inter-mediate: Implementation of P2 plans and practices

Long-term

Content of, access to, and delivery of P2 information and assistance is efficient and of high quality

Cost savings for final customers

Reduced energy use, water use, natural resource use, and waste produced

Feedback for improved quality, access, and delivery of P2 information and assistance

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Pacific Northwest Pollution Prevention Resource Center (PPRC) Logic Model—Information Dissemination

Mission: The Pacific Northwest Pollution Prevention Resource Center (PPRC) is a non-profit organization that is the Northwest's leading source of high quality, unbiased pollution prevention information. PPRC works collaboratively with business, government, non-government organizations, and other sectors to promote environmental protection through pollution prevention.

Resources

Funding
- EPA PPIN (1/4)
- State PPIN Match
- Other State / Local Funding Grants and Contracts
- SRAP Grant

Expertise / Skills
- Internal Staff Skills
- P2 Knowledge
- Technical and Web Expertise
- State and Local Expertise

Partners
- National P2Rx
- Regional State P2 Programs, Local Government
- Boards / Committees
- Green Business Programs
- Non-Environmental Business Programs (i.e. MEPs)

Activities

- Conduct evaluation and measurement
- Create and conduct trainings and seminars
- Provide and participate in networking opportunities
- Provide technical assistance
- Design and maintain websites
- Collect and produce information resources and original content
- Market resources

Outputs

- P2 Results
- Case studies of successes
- Trainings, seminars, conferences, webinars
- Partnerships
- Listservs
- Conferences / Roundtables
- Conference calls / meetings
- Technical Response (e.g. Rapid Response)
- Center websites
- Ancillary websites
- Topic Hubs
- Newsletters
- Case Studies
- Databases
- Marketing materials

Customers

Other Centers

Wholesale

Intermediate
- TAPs
- Local / State Governments
- Non-Profit Organizations
- University Technical Centers
- Business Associations
- Consultants
- Non-Environmental Programs

Retail

Final
- Industry
- Businesses
- Utilities
- Schools
- Local / State Governments
- Other

Outcomes

Short-term: Improvements in information content, delivery, sharing, and access

Intermediate: Capacity to provide P2 resources and services is enhanced

Short-term: Increased awareness of P2

Intermediate: Implementation of P2 plans and practices

Long-term

Content of, access to, and delivery of P2 information and assistance is efficient and of high quality

Cost savings for final customers

Reduced energy use, water use, natural resource use, and waste produced

Feedback for improved quality, access, and delivery of P2 information and assistance

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*Independent Non-Profit

Appendix B – Data Collection Matrix

EVALUATION QUESTION		Behavior Survey (2007/8)	Customer Satisfaction Survey (Weinreich, 2004)[9]	Web Measures[10]	Interviews - (IEc Inc, 2004)[11]	Phone Interviews (2008)[12]	Focus Groups – Region 9 & 10	Center-specific Documentation[13]	Generic and Individual Logic Models
					DATA SOURCES				
1.	What model(s) do the P2Rx centers use to encourage exploration and adoption of P2 practices?	--	--	Yes	Center Contacts Q1, 3 & 4	P2Rx	--	See Appendix H in Document	Yes
1.a.	How are centers currently operating – what model(s) are they using to disseminate information?	Q6 list from each center	--	--	Center Contacts Q1, 3 - 6	P2Rx	--	See Appendix H in Document	Yes
1.b.	Which of the centers' model(s) is most efficient in information sharing and/or delivery?	Q6 & Q7, compared across centers	Q9, if attributed	--	Managers Q 6 Center Contacts Q14, 15	--	--	See Appendix H in Document	--
1.c.	When comparing between centers, what opportunities for centers' information delivery to become more efficient are observed?	--	--	--	Coordinators Q 3? Center Contacts multiple questions	P2Rx	--	See Appendix H in Document	Yes
1.d.	What opportunities are there for centers to become more efficient in information delivery by sharing tasks?	--	--	--	Managers Q 3 Coordinators Q 5-8 Center Contacts Q7 – Q11, 15	P2Rx	--	See Appendix H in Document	--
2.	What groups / types of customers access P2Rx information?	Q2 & Q3	Q2	Yes	--	--	--	See Appendix H in Document	--
2.a	How do the customers vary according to method of outreach by the centers? •Via the website •Via TAPs •Directly (via telephone, correspondence or other communication)	Q7 crossed with Q2 (partial answer)	--	Yes, Activity Measures	--	--	--	--	--

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[9] Question numbers differ depending on which version of the Survey you are using.
[10] Will use breakout of data by Center.
[11] Based on interview transcripts from IEc Inc. Information is somewhat dated and doesn't directly address our evaluation questions.
[12] Interviews will be conducted with three sets of entities: P2Rx center directors (P2Rx), Technical Assistance Providers (TAPs), and Business Representatives (BR)
[13] Will vary by Center.

	EVALUATION QUESTION	DATA SOURCES							
		Behavior Survey (2007/8)	Customer Satisfaction Survey (Weinreich, 2004)[9]	Web Measures[10]	Interviews - (IEc Inc, 2004)[11]	Phone Interviews (2008)[12]	Focus Groups – Region 9 & 10	Center-specific Documentation[13]	Generic and Individual Logic Models
3.	**What products, services and content do <u>businesses</u> need to make a decision / consider the adoption of P2 practices?**	--	--	--	--	TAP BR	Business Group Q7 & Q8	See Appendix H in Document	--
3.a	Are the centers providing the right products, services and content to businesses to promote the adoption of P2 practices?	Ultimate user survey - Q5, Q6, (Q7), linked to businesses in Q2	Q9 – Q12	--	--	BR	Business Group Q7 & Q8		--
4.	**What products, services and content do <u>TAPs</u> need to promote businesses' adoption of P2 practices?**	--	--	--	Center Contacts Q11 - 13	TAP BR	TAPs Group Q2	See Appendix H in Document	--
4.a.	Are the centers providing the right products, services and content to TAPs to promote the adoption of P2 practices by businesses?	Intermediate user survey - Q5, Q6, (Q7), linked to TAPs in Q2	Q9 – Q12	--	Center Contacts Q11 – 13, 15	TAP BR	TAPs Group Q3 & Q4		--
5.	**To what extent are P2Rx center resources influencing businesses' adoption of P2 practices?**	Ultimate user survey - Q8 & Q9	Q7e, k	--	--	TAP BR P2Rx	TAPs Group Q5	See Appendix H in Document	--
5.a.	What causes / influences businesses to seek P2Rx information?	--	--	--	--	BR	--		--
6.	**Are the centers effective in reaching businesses through TAPs?**	Ultimate user survey - Q4 & Q5	--	--	Center Contacts Q19, 20, 22	P2Rx	Business Group Q4	See Appendix H in Document	--
6.a.	What do centers do to reach businesses through TAPs?	--	--	--	Center Contacts Q13, 18-23	P2Rx	TAPs Group Q4		--
6.b.	Can any outcomes (short-term, intermediate, or long-term) be attributed to information received from P2Rx centers?	Intermediate user survey – Q8 – Q11	Q7e, j, k	--	--	TAP P2Rx	Business Group Q3 TAPs Group Q5	See Appendix H in Document	--
7.	**Are the centers effective in reaching businesses directly?**	Ultimate user survey – Q4 & Q5	--	--	Center Contacts Q19, 22, 23	P2Rx BR	Business Group Q2	See Appendix H in Document	--
7.a.	What do centers do to reach businesses directly?	--	--	--	Center Contacts Q13, 18 - 23	P2Rx	--		--
7.b.	Can any outcomes (short-term, intermediate, or long-term) be attributed to information received from P2Rx centers?	Both surveys – Q8 – Q10	Q7e, j, k	--	--	TAP P2Rx	Business Group Q3 TAPs Group Q5	See Appendix H in Document	--

	EVALUATION QUESTION	DATA SOURCES							
		Behavior Survey (2007/8)	Customer Satisfaction Survey (Weinreich, 2004)[9]	Web Measures[10]	Interviews - (IEc Inc, 2004)[11]	Phone Interviews (2008)[12]	Focus Groups – Region 9 & 10	Center-specific Documentation[13]	Generic and Individual Logic Models
8.	**What performance measures do P2Rx centers need to collect in order to demonstrate / document client behavior and other outcomes?**	--	--	--	Managers Q4, 5 Coordinators Q4 Center Contacts Q26	P2Rx	TAPs Group Q6	See Appendix H in Document	--
8.a.	How would the centers that currently do not have the capacity to make/gather the desired measurements build their capacity?	--	--	--	Managers Q5	P2Rx	--		--
8.b.	How can the information best be collected based on available technology, funds and survey approval requirements?	--	--	--	Managers Q5	P2Rx	--		--

Appendix C – 2007/2008 Behavior Survey Analysis

The 2007/2008 Behavior Survey data have been merged together from several sources. Each center had a separate survey administered electronically through a link on the center's website using Survey Monkey. In addition, one center distributed and collected surveys in hard copy. For each question, the results are presented for business and TAPs separately as determined by the first question, as well as business and TAPs responses combined. Where [P2Rx] occurs in the question text listed here, any of the centers may be substituted.

Centers

Table 1 gives a summary of how many responses were received by center. This includes all surveys started. Not all surveys are complete. The figure for Zero Waste includes 207 hard copy surveys.

Table 1: Responses by Center

Center	Respondents
GLRPPR	50
NEWMOA	67
P2RIC	80
P2Rx	10
Peaks to Prairies	48
PPRC	69
WRPPN	77
WRRC	34
Zero Waste	234*
Grand Total	669

* Includes 207 surveys administered in hard copy

1. Respondent Type

The survey respondents were divided into types based on the first question.   Respondents are either members of the regulated community ("business") or technical assistance providers ("TAPs").

Question 1
> *Please select one option from the following list:*
> * *I primarily use [P2Rx] to find environmental assistance information to apply to my own organization or facility. [Business]*
> * *I primarily use [P2Rx] in my capacity as a provider of environmental assistance to others outside my organization. [TAPs]*

Of the responses, 352 (53%) were of type business, while 317 (47%) were of type TAPs. In each of the following questions, business and TAPs responses will be analyzed both together and separately.

2. Organization Type

Table 2 lists answers to the question *"What type of organization do you represent?"* Figures are given by percent. Please note that respondents were allowed to choose more than one response, so these numbers will not add up to 100%. The total number of responses to this question is 275 for business, 281 for TAPs, and 556 total.

Table 2: Type of Organization (% of responses)

Type of Organization	*Business*	*TAPS*	*Total*
Federal government	11%	9%	10%
State government	12%	35%	24%
Local government	14%	28%	21%
Manufacturing	41%	5%	22%
Service industry	12%	6%	9%
Educational institution	6%	11%	8%
Nonprofit organization	5%	11%	8%
Wastewater treatment industry	4%	7%	6%
Other	13%	33%	23%

Among business respondents, manufacturing was the leading type of organization at 40% of respondents, while among TAPs state and local government were the leaders at 35% and 28%, respectively.

3. Frequency of Use

Table 3 lists the answers to the question *"How often do you use [P2Rx]?"*

Table 3: Frequency of Use (% of responses)

Frequency of Use	*Business*	*TAPs*	*Total*
First time user	51%	22%	37%
Every three months	15%	24%	19%
Monthly	11%	18%	15%
Weekly	8%	15%	12%
Other (please specify)	14%	20%	17%
Number of responses	*311*	*295*	*606*

There are a notable number of first-time users. The business community was highly skewed toward new or infrequent users. TAPs users were more evenly distributed across usage levels. Among users who specified "Other," most answered that they used the site less often than every three months, or only when a newsletter arrived.

4. Referrers

Table 4 lists answers to the question *"How did you hear about [P2Rx]? (Check only one answer.)"* Hard copy users were able to check more than one answer; therefore the numbers will not add up to 100%.

Table 4: Referrers

Referrer	Business	TAPs	Total
Assistance program	4%	4%	4%
Brochure or newsletter	4%	1%	2%
Colleague	15%	29%	22%
Conference or meeting	37%	33%	35%
E-mail message or listserve	15%	14%	14%
Link from another website	7%	6%	7%
Other (please specify)	8%	9%	9%
Search engine	11%	5%	8%
Vendor	0%	1%	0%
Number of responses	*309*	*295*	*604*

Most users were referred to P2Rx by a conference or meeting, a colleague, or an e-mail. More TAPs were referred by colleagues than were businesses.

5. Awareness (Outcomes)

Table 5 lists the answers to the following question, which is worded differently for business and for TAPs:

Business: "[P2Rx] helps me to improve my awareness of environmental practices to reduce pollution. (Check only one answer.)"

TAPs: "Access to [P2Rx] information has improved my ability to provide technical assistance to my clients. (Check only one answer)".

Table 5: Awareness (Outcomes)

Improved awareness/ability	Business	TAPs	Total
Strongly Agree	29%	20%	25%
Agree	41%	44%	43%
Neutral	15%	22%	18%
Disagree	0%	1%	1%
Strongly Disagree	0%	1%	1%
Do Not Use	14%	10%	12%
Number of responses	*306*	*290*	*596*

Both business and TAPs respondents were favorable about the usefulness of the site. 70% of business respondents agreed or strongly agreed that the site improves their awareness of environmental practices, and 64% of TAPs respondents agreed or strongly agreed that the site improves their ability to provide technical assistance. Very few respondents disagreed, though some were neutral, and a substantial number did not use the site.

6. Usefulness of Each Resource

Tables 6.1-6.10 summarize the results of the following question: *"How useful were [P2Rx] resources in meeting your needs? (Please make one selection for each resource listed)."* Different centers' surveys included different resources; therefore, only "core" resources which were shared among all the electronic surveys were included. Note that not all of these "core"

resources are offered by all centers, but were not omitted from the list of responses, thereby possibly skewing the results. Three of these resources, Library, Industry Sector Information, and Vendors, were not available as choices on the paper version of the survey.

Table 6.11 shows an overview of all resources, providing the percentage of users who responded "Useful" or "Very useful" not counting those who responded "Unaware of-Do not use" (i.e., all active users)

Table 6.1: Topic Hubs

Topic Hubs	Business	TAPs	Total
Unaware of-Do not use	37%	24%	31%
Not useful	0%	2%	1%
Somewhat useful	8%	13%	10%
Useful	36%	28%	32%
Very useful	19%	33%	26%
Number of responses	237	229	466

Topic Hubs were rated highly, as Useful or Very Useful. Consistent with other evaluation findings, those who found them most useful were the TAPs audience, although business respondents also found them to be useful.

Table 6.2: News

News	Business	TAPs	Total
Unaware of-Do not use	35%	21%	28%
Not useful	0%	2%	1%
Somewhat useful	11%	21%	15%
Useful	32%	35%	33%
Very useful	22%	21%	22%
Number of responses	236	229	465

While the percentage of businesses and TAPs that felt the News was Useful, more TAPs than businesses considered it only Somewhat Useful.

Table 6.3: Industry Sector Information

Industry Sector Information	Business	TAPs	Total
Unaware of-Do not use	35%	26%	30%
Not useful	2%	3%	3%
Somewhat useful	13%	14%	14%
Useful	32%	28%	30%
Very useful	19%	28%	24%
Number of responses	135	181	316

Sector Information was rated highly, as Useful or Very Useful. Consistent with other evaluation findings, there was a larger percentage of TAPs than businesses finding it Very Useful.

Table 6.4: Case Studies

Case Studies	Business	TAPs	Total
Unaware of-Do not use	41%	29%	35%
Not useful	0%	2%	1%
Somewhat useful	10%	19%	14%
Useful	27%	26%	27%
Very useful	21%	25%	23%
Number of responses	*237*	*234*	*471*

The TAPs and business audiences were fairly consistent in their rating of the usefulness of case studies.

Table 6.5: Rapid Response

Rapid Response	Business	TAPs	Total
Unaware of-Do not use	56%	53%	54%
Not useful	0%	5%	3%
Somewhat useful	12%	13%	13%
Useful	20%	18%	19%
Very useful	11%	11%	11%
Number of responses	*235*	*228*	*463*

Results regarding the usefulness of Rapid Response were very consistent between the two audiences, although many respondents were not aware of it or did not use this service.

Table 6.6: P2 Programs Directory

P2 Programs Directory	Business	TAPs	Total
Unaware of-Do not use	38%	31%	34%
Not useful	1%	3%	2%
Somewhat useful	8%	15%	12%
Useful	32%	33%	32%
Very useful	20%	18%	19%
Number of responses	*236*	*229*	*465*

Consistent with other evaluation findings, the P2 Programs Directory was not found to be Very Useful by either audience.

Table 6.7: Library

Library	Business	TAPs	Total
Unaware of-Do not use	44%	30%	36%
Not useful	4%	4%	4%
Somewhat useful	13%	20%	17%
Useful	21%	26%	24%
Very useful	18%	19%	19%
Number of responses	*135*	*181*	*316*

The library was found to be Useful by both audiences.

Table 6.8: Vendor Database

Vendor Database	Business	TAPs	Total
Unaware of-Do not use	50%	43%	46%
Not useful	5%	8%	7%
Somewhat useful	16%	27%	22%
Useful	20%	15%	17%
Very useful	8%	7%	8%
Number of responses	135	181	316

Nearly half of respondents were not aware of or did not use the Vendor Database. Of those who did use it, the largest number of TAP respondents found it to be Somewhat Useful, while the largest number of business respondents found it to be Useful.

Interestingly, this somewhat contradicts some statements heard in focus groups or interviews, indicating a desire for more vendor information. Perhaps the Vendor Database needs to be more accessible or better promoted on the P2Rx websites, although the "Somewhat useful" rating among those who do use it indicates that the Vendor Database may need improvements in content as well.

Table 6.9: Listserves

Listserves	Business	TAPs	Total
Unaware of-Do not use	40%	33%	37%
Not useful	0%	5%	2%
Somewhat useful	11%	15%	13%
Useful	31%	26%	29%
Very useful	17%	21%	19%
Number of responses	235	231	466

Business and TAP respondents felt similarly about the usefulness of the listserves.

Table 6.10: P2 Results System (Measurement Tool)

P2 Results System (Measurement Tool)	Business	TAPs	Total
Unaware of-Do not use	54%	42%	48%
Not useful	2%	9%	5%
Somewhat useful	8%	19%	14%
Useful	25%	18%	22%
Very useful	11%	12%	12%
Number of responses	239	226	465

Interestingly, a quarter of the business respondents find the P2 Results System useful. A large percentage of TAP respondents considered it Somewhat Useful, Useful, or Very Useful.

Table 6.11: Percent of <u>active</u> users rating resource as useful or very useful

Resource	Business	TAPs	Total
Topic Hubs	87%	81%	84%
P2 Programs Directory	84%	73%	78%
News	83%	71%	77%
Industry Sector Information	77%	76%	77%
Case Studies	67%	71%	76%
Listserves	81%	70%	76%
Library	70%	65%	67%
Rapid Response	72%	61%	66%
P2 Results system (Measurement Tool)	79%	52%	64%
Vendor Database	57%	40%	46%

Overall, the most highly rated resources are the Topic Hubs, P2 Programs Directory, News, and Sector Information. In all cases, fewer business respondents were aware of the resources P2Rx had to offer than were the TAPs. It is interesting to note that among active users, business respondents do seem to be finding value in the resources that P2Rx has to offer, consistent with the value that the TAPs are finding.

7. Types of Use

Tables 7.1 and 7.2 list answers to a question about how the sites were used.   This question is worded differently for business and TAPs:

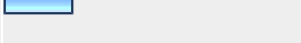*Business: "How did you utilize the [P2Rx] website(s)? (Check all that apply.)"*

TAPs: "What information did you use to improve or influence your clients' understanding of environmental practices to reduce pollution? (Check all that apply.)"

Note that since more than one answer could be chosen, the numbers will not add up to 100%.

Table 7.1: Business Use of Websites

Use	Business
Attended a training, workshop, or conference promoted by a P2Rx Center	55%
Reviewed Topic Hub information (or other NEWMOA/P2Rx website information)	51%
Asked for pollution prevention technical assistance	12%
Contacted a technical assistance provider	10%
Requested additional resources from a P2Rx Center	9%
Other (please specify)	14%
Number of responses	*203*

Over half of business respondents indicated that they used the website to attend a training, conference or workshop, or review Topic Hub or other information. However, much smaller percentages of respondents used P2Rx websites for other purposes. Consistent with other

findings, events such as conferences and trainings are a very popular use of the P2Rx center websites.

Table 7.2: TAPs Use of Websites

Use	TAPs
Provided training, workshop, and/or conference information	59%
Provided information on technical assistance providers	48%
Provided Topic Hub information	38%
Provided vendor information	24%
Other pollution prevention technical assistance. If so, please specify.	57%
Number of responses	*208*

A majority of TAP respondents also utilized P2Rx websites for trainings, conferences, or workshops. TAP respondents indicated a greater percentage of utilization of other P2Rx services than did businesses.

8. Behaviors (Outcomes)

Table 8 indicates which actions were taken by users as a result of P2Rx programs. The question was worded differently for business and TAPs:

Business: "What action(s) have you taken to improve environmental practices, in whole or in part, due to information you have found through [P2Rx]? (Check all that apply.)"

TAPs: "What action(s) have your clients taken to improve environmental practices, in whole or in part, due to information you have found through [P2Rx]?"

Table 8: Actions Taken

Actions Taken	Business	TAPs	Total
Changed a pollution prevention process or practice (i.e., implemented pollution prevention)	28%	53%	41%
Identified a pollution prevention opportunity	45%	65%	55%
Purchased new process equipment to prevent pollution	20%	23%	22%
Implemented energy conservation measures	22%	27%	25%
Switched to renewable energy	8%	4%	6%
Contacted a vendor	14%	28%	21%
Implemented material or waste recycling system	36%	38%	37%
Changed handling of waste or emission	17%	36%	27%
Installed pollution control equipment (e.g., scrubbers, control technique)	8%	11%	10%
Installed a waste treatment system	2%	10%	6%

No process changes were taken	21%	14%	18%
Other (please specify)	7%	15%	11%
Number of responses	*188*	*188*	*376*

TAP respondents indicate that they can attribute more outcomes to P2Rx information than do businesses. One possible explanation of this difference is that TAPs are being asked to report outcomes to the centers for P2 Results. See Table 9 as well.

9. Condition (Outcomes)

Table 9 shows answers to the following question:

Business: "Please identify whether you reduced or eliminated pollutant(s) as a result of [P2Rx] use. (Check all that apply.)"

TAPs: "Please identify whether your client(s) reduced or eliminated pollutant(s) as a result of [P2Rx] use. (Check all that apply.)"

Table 9: Pollutant Reduction

Pollutant Reduction	*Business*	*TAPs*	*Total*
Reduced non-hazardous waste (solid waste)	26%	36%	31%
Eliminated non-hazardous waste (solid waste)	7%	13%	10%
Reduced hazardous waste or hazardous materials	29%	37%	33%
Eliminated hazardous waste or hazardous materials	7%	13%	10%
Reduced fugitive air emissions	7%	15%	11%
Eliminated air emissions	3%	5%	4%
Reduced waste water pollution	12%	26%	20%
Eliminated pollutant waste water	5%	10%	7%
Don't Know	20%	34%	27%
None	31%	8%	19%
Other (please specify)	19%	16%	18%
Number of responses	*197*	*208*	*405*

Again, TAP respondents generally indicate more attribution of outcomes to P2Rx use than do businesses. Of note are the high responses from both audiences for "Reduced non-hazardous waste" and "Reduced hazardous waste or hazardous materials." A fairly high percentage of businesses responded "None" as compared to TAPs, and high percentages in both audiences responded "Don't know."

10. Cost Savings (Outcomes)

Table 10.1 presents answers to the following questions:

Business: "Has using [P2Rx] or the action(s) taken above resulted in cost savings to you? (Cost includes time as well as dollars.) (Check only one answer.)"

TAPs: "Has using [P2Rx] or the action(s) taken above resulted in cost savings to your client? (Cost includes time as well as dollars.) (Check only one answer.)"

Table 10.1: Cost Savings for Business

Cost Savings	*Business*	*TAPs*	*Total*
Do not know	49%	63%	56%
No	27%	9%	18%
Yes	24%	29%	26%
Number of responses	*224*	*219*	*443*

Nearly half of business respondents and over half of TAP respondents indicated that they do not know whether P2Rx resources have contributed to cost savings, although around a quarter of all respondents thought that P2Rx had contributed to cost savings for businesses.

Table 10.2 presents answers to the following question for TAPs only: *"Has using [P2Rx] saved you time or money in serving your client(s)? (Check only one answer.)"*

Table 10.2: Direct Cost Savings for TAPs

Direct Cost Savings	*TAPs*
Do not know	41%
No	10%
Yes	49%
Number of responses	*221*

Almost half of TAP respondents indicated that use of P2Rx had saved them time or money in serving their clients, and 40 percent did no know, leaving only 10 percent who did not think they had saved money or time using P2Rx.

Appendix D – Center-Specific 2007/2008 Behavior Survey Results

View Summary

Page: Opening Question

1. 1. Please select one option from the following list:

		Response Percent	Response Count
I primarily use NEWMOA and/or P2Rx to find environmental assistance information to apply to my own organization or facility.		55.2%	37
I primarily use NEWMOA and/or P2Rx in my capacity as a provider of environmental assistance to others outside my organization.		44.8%	30
	answered question		67
	skipped question		0

Page: Questions for Regulated Community

2. 2. What type of organization do you represent? (Check all that apply.)

		Response Percent	Response Count
Federal government		3.6%	1
State government		28.6%	8
Local government		0.0%	0
Manufacturing		25.0%	7
Service industry		10.7%	3
Educational institution		10.7%	3
Nonprofit organization		3.6%	1
Wastewater treatment industry		7.1%	2
view Other (please specify)		17.9%	5
	answered question		28
	skipped question		39

3. 3. How often do you use NEWMOA and/or P2Rx? (Check only one answer.)

		Response Percent	Response Count
First time user		53.6%	15
Weekly		14.3%	4
Monthly		17.9%	5
Every three months		14.3%	4
Other (please specify)		0.0%	0
	answered question		28
	skipped question		39

4. 4. How did you hear about NEWMOA and/or P2Rx? (Check only one answer.)

	Response Percent	Response Count
Search engine	17.9%	5
Link from another website	17.9%	5
E-mail message or listserv	3.6%	1
Conference or meeting	7.1%	2
Brochure or newsletter	7.1%	2
Colleague	**25.0%**	7
Vendor	0.0%	0
Assistance program	10.7%	3
Other (please specify)	10.7%	3
	answered question	28
	skipped question	39

5. 5. NEWMOA and/or P2Rx helps me to improve my awareness of environmental practices to reduce pollution. (Check only one answer.)

	Response Percent	Response Count
Strongly Agree	25.0%	7
Agree	**46.4%**	13
Neutral	14.3%	4
Disagree	3.6%	1
Strongly Disagree	0.0%	0
Do Not Use	10.7%	3
	answered question	28
	skipped question	39
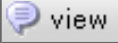
Page: Questions for Regulated Community (continued)

6. 6. How useful were NEWMOA and/or P2Rx resources in meeting your needs? (Please make one selection for each resource listed.)

	Very useful	Useful	Somewhat useful	Not useful	Unaware of-Do not use	Response Count
Topic Hubs	11.1% (2)	**50.0% (9)**	11.1% (2)	0.0% (0)	27.8% (5)	18
P2 Programs Directory	16.7% (3)	**33.3% (6)**	16.7% (3)	0.0% (0)	**33.3% (6)**	18
News	5.6% (1)	**44.4% (8)**	16.7% (3)	0.0% (0)	33.3% (6)	18
Library	5.6% (1)	27.8% (5)	16.7% (3)	0.0% (0)	**50.0% (9)**	18
Industry Sector Information	16.7% (3)	33.3% (6)	11.1% (2)	0.0% (0)	**38.9% (7)**	18
Vendor Database	5.6% (1)	27.8% (5)	16.7% (3)	5.6% (1)	**44.4% (8)**	18
Case Studies	5.6% (1)	16.7% (3)	27.8% (5)	0.0% (0)	**50.0% (9)**	18
Listservs	11.1% (2)	27.8% (5)	11.1% (2)	0.0% (0)	**50.0% (9)**	18
Rapid Response	11.1% (2)	11.1% (2)	11.1% (2)	0.0% (0)	**66.7% (12)**	18
P2 Results Data System (Measurement Tool)	5.6% (1)	27.8% (5)	11.1% (2)	0.0% (0)	**55.6% (10)**	18
NEWMOA P2 & CA Metrics Database Software	0.0% (0)	27.8% (5)	11.1% (2)	5.6% (1)	**55.6% (10)**	18
Mercury Reduction Programs Database	11.1% (2)	**33.3% (6)**	27.8% (5)	5.6% (1)	22.2% (4)	18

Northeast States Activities (Projects) Database	16.7% (3)	16.7% (3)	11.1% (2)	5.6% (1)	**50.0% (9)**	18
				answered question		18
				skipped question		49

7. 7. How did you utilize the NEWMOA and/or P2Rx website(s)? (Check all that apply.)

	Response Percent	Response Count
Reviewed Topic Hub information (or other NEWMOA/ P2Rx website information)	**55.6%**	10
Attended a training, workshop, or conference promoted by a P2Rx Center	22.2%	4
Asked for pollution prevention technical assistance	5.6%	1
Requested additional resources from a P2Rx Center	11.1%	2
Contacted a technical assistance provider	33.3%	6
💬 view Other (please specify)	16.7%	3
	answered question	18
	skipped question	49
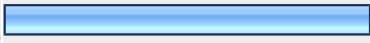
Page: Questions for Regulated Community (continued)

8. 8. What action(s) have you taken to improve environmental practices, in whole or in part, due to information you have found through NEWMOA and/or P2Rx? (Check all that apply.)

	Response Percent	Response Count
Changed a pollution prevention process or practice (i.e., implemented pollution prevention)	33.3%	6
Identified a pollution prevention opportunity	**61.1%**	11
Purchased new process equipment to prevent pollution	22.2%	4
Implemented energy conservation measures	11.1%	2
Switched to renewable energy	0.0%	0
Contacted a vendor	16.7%	3
Implemented material or waste recycling system	27.8%	5
Changed handling of waste or emission	11.1%	2
Installed pollution control equipment (e.g., scrubbers, control technique)	5.6%	1
Installed a waste treatment system	0.0%	0
No process changes were taken	5.6%	1
💬 view Other (please specify)	16.7%	3

	answered question	18
	skipped question	49

9. 9. Please identify whether you reduced or eliminated pollutant(s) as a result of NEWMOA and/or P2Rx use. (Check all that apply.)

	Response Percent	Response Count
Reduced non-hazardous waste (solid waste)	11.1%	2
Eliminated non-hazardous waste (solid waste)	5.6%	1
Reduced hazardous waste or hazardous materials	**55.6%**	10
Eliminated hazardous waste or hazardous materials	22.2%	4
Reduced fugitive air emissions	5.6%	1
Eliminated air emissions	11.1%	2
Reduced waste water pollution	16.7%	3
Eliminated pollutant waste water	16.7%	3
Don't Know	5.6%	1
None	16.7%	3
Other (please specify)	5.6%	1
	answered question	18
	skipped question	49

10. 10. Has using NEWMOA and/or P2Rx or the action(s) taken above resulted in cost savings to you? (Cost includes time as well as dollars.) (Check only one answer.)

	Response Percent	Response Count
Yes	27.8%	5
No	33.3%	6
Do not know	**38.9%**	7
If yes, please provide details.		1
	answered question	18
	skipped question	49

Page: Questions for Assistance Provider Community

11. 2. What type of organization do you represent? (Check all that apply.)

	Response Percent	Response Count
Federal government	18.5%	5
State government	**51.9%**	14
Local government	3.7%	1
Manufacturing	11.1%	3
Service industry	11.1%	3
Educational institution	14.8%	4
Nonprofit organization	11.1%	3

Wastewater treatment industry	7.4%	2
view Other (please specify)	3.7%	1
answered question		27
skipped question		40

12. 3. How often do you use NEWMOA and/or P2Rx? (Check only one answer.)

	Response Percent	Response Count
First time user	7.4%	2
Weekly	18.5%	5
Monthly	22.2%	6
Every three months	**33.3%**	9
view Other (please specify)	18.5%	5
answered question		27
skipped question		40
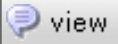
13. 4. How did you hear about NEWMOA and/or P2Rx? (Check only one answer.)

	Response Percent	Response Count
Search engine	11.1%	3
Link from another website	3.7%	1
E-mail message or listserv	14.8%	4
Conference or meeting	18.5%	5
Brochure or newsletter	0.0%	0
Colleague	**40.7%**	11
Vendor	0.0%	0
Assistance program	0.0%	0
view Other (please specify)	11.1%	3
answered question		27
skipped question		40

14. 5. Access to the NEWMOA and/or P2Rx information has improved my ability to provide technical assistance to my clients. (Check only one answer.)
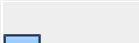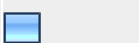
	Response Percent	Response Count
Strongly Agree	18.5%	5
Agree	**40.7%**	11
Neutral	33.3%	9
Disagree	0.0%	0
Strongly Disagree	0.0%	0
Do Not Use	7.4%	2
answered question		27
skipped question		40

Page: Questions for Assistance Provider Community (continued)

15. 6. How useful were NEWMOA and/or P2Rx resources in meeting your needs? (Please make one selection for each resource listed.)

	Very useful	Useful	Somewhat useful	Not useful	Unaware of-Do not use	Response Count
Topic Hubs	**34.8% (8)**	21.7% (5)	26.1% (6)	0.0% (0)	17.4% (4)	23
P2 Programs Directory	13.0% (3)	**30.4% (7)**	21.7% (5)	4.3% (1)	**30.4% (7)**	23
News	13.0% (3)	30.4% (7)	**34.8% (8)**	4.3% (1)	17.4% (4)	23
Library	21.7% (5)	21.7% (5)	**26.1% (6)**	8.7% (2)	21.7% (5)	23
Industry Sector Information	**34.8% (8)**	13.0% (3)	30.4% (7)	4.3% (1)	17.4% (4)	23
Vendor Database	8.7% (2)	8.7% (2)	30.4% (7)	13.0% (3)	**39.1% (9)**	23
Case Studies	8.7% (2)	21.7% (5)	30.4% (7)	0.0% (0)	**39.1% (9)**	23
Listservs	17.4% (4)	**34.8% (8)**	30.4% (7)	4.3% (1)	13.0% (3)	23
Rapid Response	4.3% (1)	26.1% (6)	21.7% (5)	8.7% (2)	**39.1% (9)**	23
P2 Results Data System (Measurement Tool)	17.4% (4)	13.0% (3)	26.1% (6)	13.0% (3)	**30.4% (7)**	23
NEWMOA P2 & CA Metrics Database Software	4.3% (1)	13.0% (3)	**34.8% (8)**	13.0% (3)	**34.8% (8)**	23
Mercury Reduction Programs Database	21.7% (5)	21.7% (5)	17.4% (4)	4.3% (1)	**34.8% (8)**	23
Northeast States Activities (Projects) Database	8.7% (2)	4.3% (1)	34.8% (8)	4.3% (1)	**47.8% (11)**	23
					answered question	23
					skipped question	44
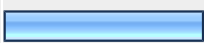
16. 7. What information did you use to improve or influence your clients' understanding of environmental practices to reduce pollution? (Check all that apply.)

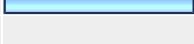|	Response Percent	Response Count
Provided training, workshop, and/or conference information	**65.2%**	15
Provided information on technical assistance providers	30.4%	7
Provided Topic Hub information	26.1%	6
Provided vendor information	13.0%	3
Other pollution prevention technical assistance. If so, please specify.	17.4%	4
	answered question	23
	skipped question	44

Page: Questions for Assistance Provider Community (continued)
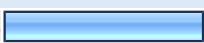
17. 8. What action(s) have your clients taken to improve environmental practices, in whole or in part, due to information you have found through NEWMOA and/or P2Rx? (Check all that apply.)
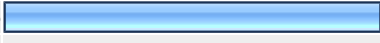
	Response Percent	Response Count
Changed a pollution prevention process or practice (i.e., implemented pollution prevention)	35.0%	7
Identified a pollution prevention opportunity	**60.0%**	12

Purchased new process equipment to prevent pollution		5.0%	1
Implemented energy conservation measures		10.0%	2
Switched to renewable energy		5.0%	1
Contacted a vendor		0.0%	0
Implemented material or waste recycling system		10.0%	2
Changed handling of waste or emission		20.0%	4
Installed pollution control equipment (e.g., scrubbers, control technique)		5.0%	1
Installed a waste treatment system		5.0%	1
No process changes were taken		20.0%	4
(view) Other (please specify)		5.0%	1
	answered question		**20**
	skipped question		**47**

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18. 9. Please identify whether your client(s) reduced or eliminated pollutant(s) as a result of NEWMOA and/or P2Rx use. (Check all that apply.)

		Response Percent	Response Count
Reduced non-hazardous waste (solid waste)		10.0%	2
Eliminated non-hazardous waste (solid waste)		5.0%	1
Reduced hazardous waste or hazardous materials		30.0%	6
Eliminated hazardous waste or hazardous materials		10.0%	2
Reduced fugitive air emissions		10.0%	2
Eliminated air emissions		0.0%	0
Reduced waste water pollution		5.0%	1
Eliminated pollutant waste water		0.0%	0
Don't Know		**45.0%**	**9**
None		5.0%	1
(view) Other (please specify)		10.0%	2
	answered question		**20**
	skipped question		**47**

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19. 10. Has using NEWMOA and/or P2Rx or the action(s) taken above resulted in cost savings to your client? (Cost includes time as well as dollars.) (Check only one answer.)

	Response Percent	Response Count
Yes	30.0%	6
No	0.0%	0
Do not know	**70.0%**	**14**
If yes, please provide details. (view)		1

	answered question	20
	skipped question	47

20. 11. Has using NEWMOA and/or P2Rx saved you time or money in serving your client(s)? (Check only one answer.)

		Response Percent	Response Count
Yes		**45.0%**	9
No		20.0%	4
Do not know		35.0%	7
If yes, please provide details.		💬 view	2
	answered question		20
	skipped question		47

View Summary

Page: Opening Question

1. 1. Please select one option from the following list:

		Response Percent	Response Count
I primarily use WRRC and/or P2Rx to find environmental assistance information to apply to my own organization or facility.		50.0%	17
I primarily use WRRC and/or P2Rx in my capacity as a provider of environmental assistance to others outside my organization.		50.0%	17
	answered question		34
	skipped question		0

Page: Questions for Regulated Community

2. 2. What type of organization do you represent? (Check all that apply.)

		Response Percent	Response Count
Federal government		0.0%	0
State government		16.7%	2
Local government		0.0%	0
Manufacturing		**25.0%**	3
Service industry		**25.0%**	3
Educational institution		**25.0%**	3
Nonprofit organization		0.0%	0
Wastewater treatment industry		0.0%	0
view **Other (please specify)**		**25.0%**	3
	answered question		12
	skipped question		22

3. 3. How often do you use WRRC and/or P2Rx? (Check only one answer.)

		Response Percent	Response Count
First time user		**58.3%**	7
Weekly		16.7%	2
Monthly		16.7%	2
Every three months		8.3%	1
Other (please specify)		0.0%	0
	answered question		12

	skipped question	**22**

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4. 4. How did you hear about WRRC and/or P2Rx? (Check only one answer.)

	Response Percent	Response Count
Search engine	**33.3%**	4
Link from another website	25.0%	3
E-mail message or listserv	8.3%	1
Conference or meeting	0.0%	0
Brochure or newsletter	8.3%	1
Colleague	8.3%	1
Vendor	0.0%	0
Assistance program	8.3%	1
Other (please specify)	8.3%	1
	answered question	**12**
	skipped question	**22**

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5. 5. WRRC and/or P2Rx helps me to improve my awareness of environmental practices to reduce pollution. (Check only one answer.)

	Response Percent	Response Count
Strongly Agree	**58.3%**	7
Agree	25.0%	3
Neutral	8.3%	1
Disagree	0.0%	0
Strongly Disagree	0.0%	0
Do Not Use	8.3%	1
	answered question	**12**
	skipped question	**22**

Page: Questions for Regulated Community (continued)

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6. 6. How useful were WRRC and/or P2Rx resources in meeting your needs? (Please make one selection for each resource listed.)

	Very useful	Useful	Somewhat useful	Not useful	Unaware of-Do not use	Response Count
Topic Hubs	**33.3% (3)**	**33.3% (3)**	0.0% (0)	0.0% (0)	**33.3% (3)**	9
P2 Programs Directory	**33.3% (3)**	**33.3% (3)**	0.0% (0)	0.0% (0)	**33.3% (3)**	9
News	**33.3% (3)**	22.2% (2)	11.1% (1)	0.0% (0)	**33.3% (3)**	9
Library	**44.4% (4)**	33.3% (3)	0.0% (0)	0.0% (0)	22.2% (2)	9
Industry Sector Information (i.e., Best References Collection)	22.2% (2)	**44.4% (4)**	0.0% (0)	0.0% (0)	33.3% (3)	9
Vendor Database	22.2% (2)	**33.3% (3)**	11.1% (1)	0.0% (0)	**33.3% (3)**	9
Case Studies	22.2% (2)	22.2% (2)	11.1% (1)	0.0% (0)	**44.4% (4)**	9
Listservs	**33.3% (3)**	22.2% (2)	11.1% (1)	0.0% (0)	**33.3% (3)**	9
Rapid Response	33.3% (3)	**44.4% (4)**	0.0% (0)	0.0% (0)	22.2% (2)	9
P2 Results Data System (Measurement Tool)	33.3% (3)	22.2% (2)	0.0% (0)	0.0% (0)	**44.4% (4)**	9
					answered question	**9**

| | | | skipped question | 25 |

7. 7. How did you utilize the WRRC and/or P2Rx website(s)? (Check all that apply.)

		Response Percent	Response Count
Reviewed Topic Hub information (or other WRRC/P2Rx website information)		**55.6%**	5
Attended a training, workshop, or conference promoted by a P2Rx Center		11.1%	1
Asked for pollution prevention technical assistance		22.2%	2
Requested additional resources from a P2Rx Center		33.3%	3
Contacted a technical assistance provider		11.1%	1
Other (please specify)		11.1%	1
		answered question	9
		skipped question	25

Page: Questions for Regulated Community (continued)

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8. 8. What action(s) have you taken to improve environmental practices, in whole or in part, due to information you have found through WRRC and/or P2Rx? (Check all that apply.)

|		Response Percent	Response Count
Changed a pollution prevention process or practice (i.e., implemented pollution prevention)		0.0%	0
Identified a pollution prevention opportunity		**28.6%**	2
Purchased new process equipment to prevent pollution		**28.6%**	2
Implemented energy conservation measures		0.0%	0
Switched to renewable energy		14.3%	1
Contacted a vendor		**28.6%**	2
Implemented material or waste recycling system		14.3%	1
Changed handling of waste or emission		14.3%	1
Installed pollution control equipment (e.g., scrubbers, control technique)		0.0%	0
Installed a waste treatment system		0.0%	0
No process changes were taken		14.3%	1
Other (please specify)		0.0%	0
		answered question	7
		skipped question	27

9. 9. Please identify whether you reduced or eliminated pollutant(s) as a result of WRRC and/or P2Rx use. (Check all that apply.)

	Response Percent	Response Count
Reduced non-hazardous waste (solid waste)	0.0%	0
Eliminated non-hazardous waste (solid waste)	0.0%	0
Reduced hazardous waste or hazardous materials	14.3%	1
Eliminated hazardous waste or hazardous materials	0.0%	0
Reduced fugitive air emissions	0.0%	0
Eliminated air emissions	0.0%	0
Reduced waste water pollution	14.3%	1
Eliminated pollutant waste water	0.0%	0
Don't Know	**42.9%**	**3**
None	14.3%	1
Other (please specify)	14.3%	1
	answered question	7
	skipped question	27

10. 10. Has using WRRC and/or P2Rx or the action(s) taken above resulted in cost savings to you? (Cost includes time as well as dollars.) (Check only one answer.)

	Response Percent	Response Count
Yes	28.6%	2
No	28.6%	2
Do not know	**42.9%**	**3**
If yes, please provide details.		0
	answered question	7
	skipped question	27
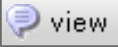
Page: Questions for Assistance Provider Community

11. 2. What type of organization do you represent? (Check all that apply.)

	Response Percent	Response Count
Federal government	6.3%	1
State government	**75.0%**	**12**
Local government	0.0%	0
Manufacturing	0.0%	0
Service industry	0.0%	0
Educational institution	6.3%	1
Nonprofit organization	0.0%	0
Wastewater treatment industry	0.0%	0
Other (please specify)	12.5%	2
	answered question	16
	skipped question	18

12. 3. How often do you use WRRC and/or P2Rx? (Check only one answer.)

		Response Percent	Response Count
First time user		25.0%	4
Weekly		**43.8%**	7
Monthly		12.5%	2
Every three months		12.5%	2
[view] Other (please specify)		6.3%	1
	answered question		16
	skipped question		18

13. 4. How did you hear about WRRC and/or P2Rx? (Check only one answer.)

		Response Percent	Response Count
Search engine		18.8%	3
Link from another website		18.8%	3
E-mail message or listserv		0.0%	0
Conference or meeting		12.5%	2
Brochure or newsletter		0.0%	0
Colleague		**37.5%**	6
Vendor		0.0%	0
Assistance program		6.3%	1
[view] Other (please specify)		6.3%	1
	answered question		16
	skipped question		18

14. 5. Access to the WRRC and/or P2Rx information has improved my ability to provide technical assistance to my clients. (Check only one answer.)

		Response Percent	Response Count
Strongly Agree		37.5%	6
Agree		**56.3%**	9
Neutral		6.3%	1
Disagree		0.0%	0
Strongly Disagree		0.0%	0
Do Not Use		0.0%	0
	answered question		16
	skipped question		18
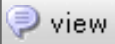
Page: Questions for Assistance Provider Community (continued)

15. 6. How useful were WRRC and/or P2Rx resources in meeting your needs? (Please make one selection for each resource listed.)

	Very useful	Useful	Somewhat useful	Not useful	Unaware of-Do not use	Response Count
Topic Hubs	26.7% (4)	**53.3% (8)**	13.3% (2)	0.0% (0)	6.7% (1)	15

P2 Programs Directory	**40.0% (6)**	13.3% (2)	13.3% (2)	13.3% (2)	20.0% (3)	15
News	0.0% (0)	**40.0% (6)**	33.3% (5)	6.7% (1)	20.0% (3)	15
Library	**40.0% (6)**	**40.0% (6)**	6.7% (1)	0.0% (0)	13.3% (2)	15
Industry Sector Information (i.e., Best References Collection)	33.3% (5)	**53.3% (8)**	0.0% (0)	6.7% (1)	6.7% (1)	15
Vendor Database	13.3% (2)	13.3% (2)	**33.3% (5)**	13.3% (2)	26.7% (4)	15
Case Studies	33.3% (5)	**46.7% (7)**	6.7% (1)	6.7% (1)	6.7% (1)	15
Listservs	6.7% (1)	13.3% (2)	13.3% (2)	13.3% (2)	**53.3% (8)**	15
Rapid Response	13.3% (2)	26.7% (4)	6.7% (1)	0.0% (0)	**53.3% (8)**	15
P2 Results Data System (Measurement Tool)	**26.7% (4)**	**26.7% (4)**	13.3% (2)	6.7% (1)	**26.7% (4)**	15
					answered question	**15**
					skipped question	**19**
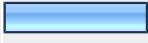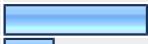
16. 7. What information did you use to improve or influence your clients' understanding of environmental practices to reduce pollution? (Check all that apply.)

	Response Percent	Response Count
Provided training, workshop, and/or conference information	53.3%	8
Provided information on technical assistance providers	40.0%	6
Provided Topic Hub information	**60.0%**	9
Provided vendor information	26.7%	4
💬 view Other pollution prevention technical assistance. If so, please specify.	26.7%	4
answered question		**15**
skipped question		**19**
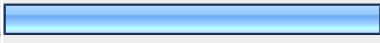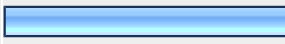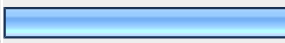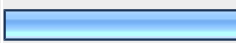
Page: Questions for Assistance Provider Community (continued)

17. 8. What action(s) have your clients taken to improve environmental practices, in whole or in part, due to information you have found through WRRC and/or P2Rx? (Check all that apply.)

	Response Percent	Response Count
Changed a pollution prevention process or practice (i.e., implemented pollution prevention)	71.4%	10
Identified a pollution prevention opportunity	**78.6%**	11
Purchased new process equipment to prevent pollution	42.9%	6
Implemented energy conservation measures	35.7%	5
Switched to renewable energy	7.1%	1
Contacted a vendor	14.3%	2
Implemented material or waste recycling system	64.3%	9
Changed handling of waste or emission	50.0%	7

		Response Percent	Response Count
Installed pollution control equipment (e.g., scrubbers, control technique)		21.4%	3
Installed a waste treatment system		21.4%	3
No process changes were taken		7.1%	1
[view] Other (please specify)		7.1%	1
	answered question		**14**
	skipped question		**20**
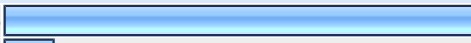
18. 9. Please identify whether your client(s) reduced or eliminated pollutant(s) as a result of WRRC and/or P2Rx use. (Check all that apply.)

		Response Percent	Response Count
Reduced non-hazardous waste (solid waste)		**57.1%**	8
Eliminated non-hazardous waste (solid waste)		42.9%	6
Reduced hazardous waste or hazardous materials		42.9%	6
Eliminated hazardous waste or hazardous materials		35.7%	5
Reduced fugitive air emissions		28.6%	4
Eliminated air emissions		14.3%	2
Reduced waste water pollution		42.9%	6
Eliminated pollutant waste water		14.3%	2
Don't Know		28.6%	4
None		0.0%	0
[view] Other (please specify)		7.1%	1
	answered question		**14**
	skipped question		**20**

19. 10. Has using WRRC and/or P2Rx or the action(s) taken above resulted in cost savings to your client? (Cost includes time as well as dollars.) (Check only one answer.)

		Response Percent	Response Count
Yes		**57.1%**	8
No		0.0%	0
Do not know		42.9%	6
If yes, please provide details.	[view]		2
	answered question		**14**
	skipped question		**20**

20. 11. Has using WRRC and/or P2Rx saved you time or money in serving your client(s)? (Check only one answer.)

		Response Percent	Response Count
Yes		**71.4%**	10
No		7.1%	1

Do not know	21.4%	3
If yes, please provide details.	view	2
	answered question	14
	skipped question	20

View Summary

Page: Opening Question

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1. 1. Please select one option from the following list:

		Response Percent	Response Count
I primarily use GLRPPR and/or P2Rx to find environmental assistance information to apply to my own organization or facility.		**54.0%**	27
I primarily use GLRPPR and/or P2Rx in my capacity as a provider of environmental assistance to others outside my organization.		46.0%	23
	answered question		50
	skipped question		0

Page: Questions for Regulated Community

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2. 2. What type of organization do you represent? (Check all that apply.)

		Response Percent	Response Count
Federal government		19.0%	4
State government		19.0%	4
Local government		14.3%	3
Manufacturing		**28.6%**	6
Service industry		4.8%	1
Educational institution		4.8%	1
Nonprofit organization		4.8%	1
Wastewater treatment industry		0.0%	0
🗩 view Other (please specify)		9.5%	2
	answered question		21
	skipped question		29

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3. 3. How often do you use GLRPPR and/or P2Rx? (Check only one answer.)

		Response Percent	Response Count
First time user		**33.3%**	7
Weekly		19.0%	4
Monthly		19.0%	4
Every three months		9.5%	2
🗩 view Other (please specify)		19.0%	4

	answered question	21
	skipped question	29

4. 4. How did you hear about GLRPPR and/or P2Rx? (Check only one answer.)

		Response Percent	Response Count
Search engine		23.8%	5
Link from another website		9.5%	2
E-mail message or listserv		**28.6%**	6
Conference or meeting		19.0%	4
Brochure or newsletter		4.8%	1
Colleague		14.3%	3
Vendor		0.0%	0
Assistance program		0.0%	0
Other (please specify)		0.0%	0
	answered question		21
	skipped question		29

5. 5. GLRPPR and/or P2Rx helps me to improve my awareness of environmental practices to reduce pollution. (Check only one answer.)

		Response Percent	Response Count
Strongly Agree		19.0%	4
Agree		**52.4%**	11
Neutral		19.0%	4
Disagree		0.0%	0
Strongly Disagree		0.0%	0
Do Not Use		9.5%	2
	answered question		21
	skipped question		29

Page: Questions for Regulated Community (continued)

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6. 6. How useful were GLRPPR and/or P2Rx resources in meeting your needs? (Please make one selection for each resource listed.)

	Very useful	Useful	Somewhat useful	Not useful	Unaware of-Do not use	Response Count
Topic Hubs	23.1% (3)	**38.5% (5)**	7.7% (1)	0.0% (0)	30.8% (4)	13
P2 Programs Directory (i.e., Contacts Database)	7.7% (1)	**46.2% (6)**	23.1% (3)	0.0% (0)	23.1% (3)	13
News	**46.2% (6)**	23.1% (3)	7.7% (1)	0.0% (0)	23.1% (3)	13
Library (i.e., P2 Infohouse)	23.1% (3)	**30.8% (4)**	15.4% (2)	0.0% (0)	**30.8% (4)**	13
Industry Sector Information (i.e., Sector Resources)	23.1% (3)	23.1% (3)	15.4% (2)	0.0% (0)	**38.5% (5)**	13
Vendor Database	7.7% (1)	15.4% (2)	**30.8% (4)**	15.4% (2)	**30.8% (4)**	13
Case Studies	15.4% (2)	**46.2% (6)**	7.7% (1)	0.0% (0)	30.8% (4)	13
Listservs (not including P2Tech Listserv)	23.1% (3)	15.4% (2)	**30.8% (4)**	0.0% (0)	**30.8% (4)**	13
Rapid Response (i.e., Help Desk)	23.1% (3)	15.4% (2)	15.4% (2)	0.0% (0)	**46.2% (6)**	13
P2 Results Data System (Measurement Tool)	7.7% (1)	23.1% (3)	15.4% (2)	7.7% (1)	**46.2% (6)**	13
P2Tech Listserv	15.4% (2)	15.4% (2)	30.8% (4)	0.0% (0)	**38.5% (5)**	13

GLRPPR Blog	15.4% (2)	15.4% (2)	23.1% (3)	0.0% (0)	**46.2% (6)**	13
Funding Opportunities List	15.4% (2)	15.4% (2)	7.7% (1)	7.7% (1)	**53.8% (7)**	13
Online Calendar	23.1% (3)	**30.8% (4)**	15.4% (2)	0.0% (0)	**30.8% (4)**	13
LINK Newsletter	23.1% (3)	23.1% (3)	23.1% (3)	0.0% (0)	**30.8% (4)**	13
Projects Database	7.7% (1)	15.4% (2)	15.4% (2)	7.7% (1)	**53.8% (7)**	13
					answered question	13
					skipped question	37

7. 7. How did you utilize the GLRPPR and/or P2Rx website(s)? (Check all that apply.)

	Response Percent	Response Count
Reviewed Topic Hub information (or other GLRPPR/P2Rx website information)	**76.9%**	10
Attended a training, workshop, or conference promoted by a P2Rx Center	30.8%	4
Asked for pollution prevention technical assistance	23.1%	3
Requested additional resources from a P2Rx Center	7.7%	1
Contacted a technical assistance provider	15.4%	2
view Other (please specify)	7.7%	1
answered question		13
skipped question		37
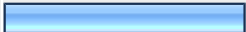
Page: Questions for Regulated Community (continued)

8. 8. What action(s) have you taken to improve environmental practices, in whole or in part, due to information you have found through GLRPPR and/or P2Rx? (Check all that apply.)
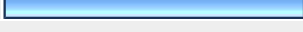
	Response Percent	Response Count
Changed a pollution prevention process or practice (i.e., implemented pollution prevention)	18.2%	2
Identified a pollution prevention opportunity	**63.6%**	7
Purchased new process equipment to prevent pollution	9.1%	1
Implemented energy conservation measures	36.4%	4
Switched to renewable energy	9.1%	1
Contacted a vendor	9.1%	1
Implemented material or waste recycling system	45.5%	5
Changed handling of waste or emission	18.2%	2
Installed pollution control equipment (e.g., scrubbers, control technique)	0.0%	0
Installed a waste treatment system	0.0%	0
No process changes were taken	9.1%	1

	view	Other (please specify)		9.1%	1
			answered question		11
			skipped question		39

9. 9. Please identify whether you reduced or eliminated pollutant(s) as a result of GLRPPR and/or P2Rx use. (Check all that apply.)
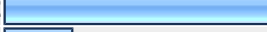
	Response Percent	Response Count
Reduced non-hazardous waste (solid waste)	**36.4%**	4
Eliminated non-hazardous waste (solid waste)	18.2%	2
Reduced hazardous waste or hazardous materials	**36.4%**	4
Eliminated hazardous waste or hazardous materials	9.1%	1
Reduced fugitive air emissions	0.0%	0
Eliminated air emissions	9.1%	1
Reduced waste water pollution	9.1%	1
Eliminated pollutant waste water	9.1%	1
Don't Know	0.0%	0
None	18.2%	2
Other (please specify)	9.1%	1
answered question		11
skipped question		39

10. 10. Has using GLRPPR and/or P2Rx or the action(s) taken above resulted in cost savings to you? (Cost includes time as well as dollars.) (Check only one answer.)

	Response Percent	Response Count
Yes	18.2%	2
No	36.4%	4
Do not know	**45.5%**	5
If yes, please provide details.		1
answered question		11
skipped question		39

Page: Questions for Assistance Provider Community

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11. 2. What type of organization do you represent? (Check all that apply.)

	Response Percent	Response Count
Federal government	25.0%	5
State government	**40.0%**	8
Local government	10.0%	2
Manufacturing	10.0%	2

Service industry	10.0%	2
Educational institution	10.0%	2
Nonprofit organization	5.0%	1
Wastewater treatment industry	0.0%	0
[view] Other (please specify)	15.0%	3
answered question		20
skipped question		30

12. 3. How often do you use GLRPPR and/or P2Rx? (Check only one answer.)

	Response Percent	Response Count
First time user	15.0%	3
Weekly	25.0%	5
Monthly	**30.0%**	**6**
Every three months	20.0%	4
[view] Other (please specify)	10.0%	2
answered question		20
skipped question		30

13. 4. How did you hear about GLRPPR and/or P2Rx? (Check only one answer.)

	Response Percent	Response Count
Search engine	5.0%	1
Link from another website	15.0%	3
E-mail message or listserv	20.0%	4
Conference or meeting	15.0%	3
Brochure or newsletter	0.0%	0
Colleague	**25.0%**	**5**
Vendor	0.0%	0
Assistance program	15.0%	3
[view] Other (please specify)	5.0%	1
answered question		20
skipped question		30

14. 5. Access to the GLRPPR and/or P2Rx information has improved my ability to provide technical assistance to my clients. (Check only one answer.)

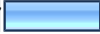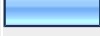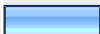|	Response Percent	Response Count
Strongly Agree	**30.0%**	**6**
Agree	**30.0%**	**6**
Neutral	**30.0%**	**6**
Disagree	0.0%	0
Strongly Disagree	0.0%	0
Do Not Use	10.0%	2
answered question		20
skipped question		30

Page: Questions for Assistance Provider Community (continued)

15. 6. How useful were GLRPPR and/or P2Rx resources in meeting your needs? (Please make one selection for each resource listed.)

	Very useful	Useful	Somewhat useful	Not useful	Unaware of-Do not use	Response Count
Topic Hubs	**50.0% (8)**	12.5% (2)	18.8% (3)	0.0% (0)	18.8% (3)	16
P2 Programs Directory (i.e., Contacts Database)	25.0% (4)	**43.8% (7)**	6.3% (1)	6.3% (1)	18.8% (3)	16
News	12.5% (2)	25.0% (4)	**31.3% (5)**	6.3% (1)	25.0% (4)	16
Library (i.e., P2 Infohouse)	18.8% (3)	18.8% (3)	**37.5% (6)**	0.0% (0)	25.0% (4)	16
Industry Sector Information (i.e., Sector Resources)	**37.5% (6)**	**37.5% (6)**	0.0% (0)	0.0% (0)	25.0% (4)	16
Vendor Database	12.5% (2)	12.5% (2)	18.8% (3)	12.5% (2)	**43.8% (7)**	16
Case Studies	25.0% (4)	**37.5% (6)**	18.8% (3)	0.0% (0)	18.8% (3)	16
Listservs (not including P2Tech Listserv)	12.5% (2)	18.8% (3)	12.5% (2)	18.8% (3)	**37.5% (6)**	16
Rapid Response (i.e., Help Desk)	0.0% (0)	18.8% (3)	0.0% (0)	25.0% (4)	**56.3% (9)**	16
P2 Results Data System (Measurement Tool)	6.3% (1)	18.8% (3)	18.8% (3)	25.0% (4)	**31.3% (5)**	16
P2Tech Listserv	25.0% (4)	12.5% (2)	18.8% (3)	6.3% (1)	**37.5% (6)**	16
GLRPPR Blog	6.3% (1)	18.8% (3)	12.5% (2)	25.0% (4)	**37.5% (6)**	16
Funding Opportunities List	6.3% (1)	**43.8% (7)**	18.8% (3)	6.3% (1)	25.0% (4)	16
Online Calendar	6.3% (1)	31.3% (5)	12.5% (2)	12.5% (2)	**37.5% (6)**	16
LINK Newsletter	6.3% (1)	**56.3% (9)**	12.5% (2)	0.0% (0)	25.0% (4)	16
Projects Database	0.0% (0)	**31.3% (5)**	25.0% (4)	12.5% (2)	**31.3% (5)**	16
					answered question	**16**
					skipped question	**34**

16. 7. What information did you use to improve or influence your clients' understanding of environmental practices to reduce pollution? (Check all that apply.)

	Response Percent	Response Count
Provided training, workshop, and/or conference information	43.8%	7
Provided information on technical assistance providers	43.8%	7
Provided Topic Hub information	**50.0%**	**8**
Provided vendor information	31.3%	5
🗩 view Other pollution prevention technical assistance. If so, please specify.	18.8%	3
	answered question	**16**
	skipped question	**34**

Page: Questions for Assistance Provider Community (continued)

17. 8. What action(s) have your clients taken to improve environmental practices, in whole or in part, due to information you have found through GLRPPR and/or P2Rx? (Check all that apply.)
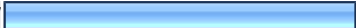
	Response Percent	Response Count
Changed a pollution prevention process or practice (i.e., implemented pollution prevention)	40.0%	6
Identified a pollution prevention opportunity	**46.7%**	7
Purchased new process equipment to prevent pollution	33.3%	5
Implemented energy conservation measures	33.3%	5
Switched to renewable energy	13.3%	2
Contacted a vendor	33.3%	5
Implemented material or waste recycling system	33.3%	5
Changed handling of waste or emission	26.7%	4
Installed pollution control equipment (e.g., scrubbers, control technique)	0.0%	0
Installed a waste treatment system	0.0%	0
No process changes were taken	20.0%	3
view Other (please specify)	26.7%	4
answered question		15
skipped question		35

18. 9. Please identify whether your client(s) reduced or eliminated pollutant(s) as a result of GLRPPR and/or P2Rx use. (Check all that apply.)
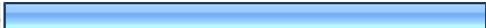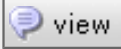
	Response Percent	Response Count
Reduced non-hazardous waste (solid waste)	20.0%	3
Eliminated non-hazardous waste (solid waste)	13.3%	2
Reduced hazardous waste or hazardous materials	26.7%	4
Eliminated hazardous waste or hazardous materials	13.3%	2
Reduced fugitive air emissions	13.3%	2
Eliminated air emissions	6.7%	1
Reduced waste water pollution	33.3%	5
Eliminated pollutant waste water	6.7%	1
Don't Know	**46.7%**	7
None	13.3%	2
view Other (please specify)	13.3%	2
answered question		15
skipped question		35

19. 10. Has using GLRPPR and/or P2Rx or the action(s) taken above resulted in cost savings to your client? (Cost includes time as well as dollars.) (Check only one answer.)

	Response Percent	Response Count

		Response Percent	Response Count
Yes		33.3%	5
No		13.3%	2
Do not know		**53.3%**	8
If yes, please provide details.	view		2
		answered question	15
		skipped question	35

20. 11. Has using GLRPPR and/or P2Rx saved you time or money in serving your client(s)? (Check only one answer.)

		Response Percent	Response Count
Yes		**73.3%**	11
No		6.7%	1
Do not know		20.0%	3
If yes, please provide details.	view		8
		answered question	15
		skipped question	35

View Summary

Page: Opening Question

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1. 1. Please select one option from the following list:

		Response Percent	Response Count
I primarily use the Zero Waste Network and/or P2Rx to find environmental assistance information to apply to my own organization or facility.		40.7%	11
I primarily use the Zero Waste Network and/or P2Rx in my capacity as a provider of environmental assistance to others outside my organization.		**59.3%**	16
	answered question		27
	skipped question		-2

Page: Questions for Regulated Community

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2. 2. What type of organization do you represent? (Check all that apply.)

		Response Percent	Response Count
Federal government		10.0%	1
State government		0.0%	0
Local government		**50.0%**	5
Manufacturing		10.0%	1
Service industry		10.0%	1
Educational institution		10.0%	1
Nonprofit organization		0.0%	0
Wastewater treatment industry		0.0%	0
view Other (please specify)		10.0%	1
	answered question		10
	skipped question		15

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3. 3. How often do you use the Zero Waste Network and/or P2Rx? (Check only one answer.)
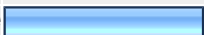
		Response Percent	Response Count
First time user		**50.0%**	5
Weekly		10.0%	1
Monthly		0.0%	0
Every three months		20.0%	2

view	Other (please specify)		20.0%	2
		answered question		10
		skipped question		15

4. 4. How did you hear about the Zero Waste Network and/or P2Rx? (Check only one answer.)

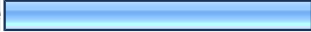|		Response Percent	Response Count
Search engine		20.0%	2
Link from another website		10.0%	1
E-mail message or listserv		**30.0%**	3
Conference or meeting		20.0%	2
Brochure or newsletter		0.0%	0
Colleague		0.0%	0
Vendor		0.0%	0
Assistance program		10.0%	1
view Other (please specify)		10.0%	1
	answered question		10
	skipped question		15

5. 5. The Zero Waste Network and/or P2Rx helps me to improve my awareness of environmental practices to reduce pollution. (Check only one answer.)
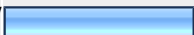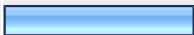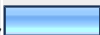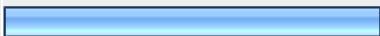
		Response Percent	Response Count
Strongly Agree		20.0%	2
Agree		20.0%	2
Neutral		**30.0%**	3
Disagree		0.0%	0
Strongly Disagree		0.0%	0
Do Not Use		**30.0%**	3
	answered question		10
	skipped question		15

Page: Questions for Regulated Community (continued)
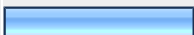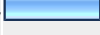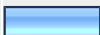
6. 6. How useful were the Zero Waste Network and/or P2Rx resources in meeting your needs? (Please make one selection for each resource listed.)

	Very useful	Useful	Somewhat useful	Not useful	Unaware of-Do not use	Response Count
Topic Hubs	28.6% (2)	14.3% (1)	0.0% (0)	0.0% (0)	**57.1% (4)**	7
P2 Programs Directory	14.3% (1)	14.3% (1)	0.0% (0)	0.0% (0)	**71.4% (5)**	7
News	14.3% (1)	0.0% (0)	14.3% (1)	0.0% (0)	**71.4% (5)**	7
Library	14.3% (1)	0.0% (0)	0.0% (0)	0.0% (0)	**85.7% (6)**	7
Industry Sector Information	14.3% (1)	14.3% (1)	0.0% (0)	0.0% (0)	**71.4% (5)**	7
Vendor Database	14.3% (1)	0.0% (0)	0.0% (0)	0.0% (0)	**85.7% (6)**	7
Case Studies	14.3% (1)	28.6% (2)	0.0% (0)	0.0% (0)	**57.1% (4)**	7
Listservs	28.6% (2)	0.0% (0)	0.0% (0)	0.0% (0)	**71.4% (5)**	7
Rapid Response	14.3% (1)	0.0% (0)	0.0% (0)	0.0% (0)	**85.7% (6)**	7

P2 Results Data System (Measurement Tool)	14.3% (1)	0.0% (0)	0.0% (0)	0.0% (0)	**85.7% (6)**	7
P2 Planner	14.3% (1)	14.3% (1)	0.0% (0)	0.0% (0)	**71.4% (5)**	7
P2 Options	14.3% (1)	0.0% (0)	0.0% (0)	0.0% (0)	**85.7% (6)**	7
Spanish Materials	14.3% (1)	0.0% (0)	0.0% (0)	0.0% (0)	**85.7% (6)**	7
RENEW (Resource Exchange)	14.3% (1)	14.3% (1)	0.0% (0)	0.0% (0)	**71.4% (5)**	7
Workshops/Presentations	14.3% (1)	0.0% (0)	0.0% (0)	0.0% (0)	**85.7% (6)**	7
Site Visits	14.3% (1)	0.0% (0)	0.0% (0)	0.0% (0)	**85.7% (6)**	7
					answered question	7
					skipped question	18

7. 7. How did you utilize the Zero Waste Network and/or P2Rx website(s)? (Check all that apply.)

	Response Percent	Response Count
Reviewed Topic Hub information (or other Zero Waste Network/ P2Rx website information)	28.6%	2
Attended a training, workshop, or conference promoted by a P2Rx Center	28.6%	2
Asked for pollution prevention technical assistance	0.0%	0
Requested additional resources from a P2Rx Center	0.0%	0
Contacted a technical assistance provider	14.3%	1
view **Other (please specify)**	**57.1%**	4
	answered question	7
	skipped question	18

Page: Questions for Regulated Community (continued)

8. 8. What action(s) have you taken to improve environmental practices, in whole or in part, due to information you have found through the Zero Waste Network and/or P2Rx? (Check all that apply.)

	Response Percent	Response Count
Changed a pollution prevention process or practice (i.e., implemented pollution prevention)	28.6%	2
Identified a pollution prevention opportunity	14.3%	1
Purchased new process equipment to prevent pollution	0.0%	0
Implemented energy conservation measures	14.3%	1
Switched to renewable energy	14.3%	1
Contacted a vendor	14.3%	1
Implemented material or waste recycling system	14.3%	1
Changed handling of waste or emission	14.3%	1

		Response Percent	Response Count
Installed pollution control equipment (e.g., scrubbers, control technique)		0.0%	0
Installed a waste treatment system		0.0%	0
No process changes were taken		**71.4%**	**5**
Other (please specify)		0.0%	0
		answered question	7
		skipped question	18

9. 9. Please identify whether you reduced or eliminated pollutant(s) as a result of the Zero Waste Network and/or P2Rx use. (Check all that apply.)

		Response Percent	Response Count
Reduced non-hazardous waste (solid waste)		28.6%	2
Eliminated non-hazardous waste (solid waste)		0.0%	0
Reduced hazardous waste or hazardous materials		28.6%	2
Eliminated hazardous waste or hazardous materials		0.0%	0
Reduced fugitive air emissions		14.3%	1
Eliminated air emissions		0.0%	0
Reduced waste water pollution		14.3%	1
Eliminated pollutant waste water		0.0%	0
Don't Know		0.0%	0
None		**71.4%**	**5**
Other (please specify)		0.0%	0
		answered question	7
		skipped question	18

10. 10. Has using the Zero Waste Network and/or P2Rx or the action(s) taken above resulted in cost savings to you? (Cost includes time as well as dollars.) (Check only one answer.)

		Response Percent	Response Count
Yes		14.3%	1
No		28.6%	2
Do not know		**57.1%**	**4**
If yes, please provide details.			0
		answered question	7
		skipped question	18

Page: Questions for Assistance Provider Community

11. 2. What type of organization do you represent? (Check all that apply.)

		Response Percent	Response Count
Federal government		0.0%	0
State government		33.3%	5
Local government		**40.0%**	**6**
Manufacturing		0.0%	0
Service industry		13.3%	2
Educational institution		13.3%	2
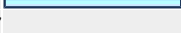
Nonprofit organization	6.7%	1
Wastewater treatment industry	13.3%	2
[view] Other (please specify)	6.7%	1
	answered question	**15**
	skipped question	**10**

12. 3. How often do you use the Zero Waste Network and/or P2Rx? (Check only one answer.)

	Response Percent	Response Count
First time user	13.3%	2
Weekly	20.0%	3
Monthly	13.3%	2
Every three months	**53.3%**	8
Other (please specify)	0.0%	0
	answered question	**15**
	skipped question	**10**

13. 4. How did you hear about the Zero Waste Network and/or P2Rx? (Check only one answer.)

	Response Percent	Response Count
Search engine	6.7%	1
Link from another website	6.7%	1
E-mail message or listserv	20.0%	3
Conference or meeting	**26.7%**	4
Brochure or newsletter	0.0%	0
Colleague	**26.7%**	4
Vendor	0.0%	0
Assistance program	6.7%	1
[view] Other (please specify)	6.7%	1
	answered question	**15**
	skipped question	**10**

14. 5. Access to the the Zero Waste Network and/or P2Rx information has improved my ability to provide technical assistance to my clients. (Check only one answer.)

	Response Percent	Response Count
Strongly Agree	26.7%	4
Agree	**46.7%**	7
Neutral	26.7%	4
Disagree	0.0%	0
Strongly Disagree	0.0%	0
Do Not Use	0.0%	0
	answered question	**15**
	skipped question	**10**

Page: Questions for Assistance Provider Community (continued)

15. 6. How useful were the Zero Waste Network and/or P2Rx resources in meeting your needs? (Please make one selection for each resource listed.)

	Very useful	Useful	Somewhat useful	Not useful	Unaware of-Do not use	Response Count
Topic Hubs	**46.2% (6)**	30.8% (4)	0.0% (0)	0.0% (0)	23.1% (3)	13
P2 Programs Directory	**30.8% (4)**	23.1% (3)	15.4% (2)	0.0% (0)	**30.8% (4)**	13
News	23.1% (3)	**46.2% (6)**	15.4% (2)	0.0% (0)	15.4% (2)	13
Library	**30.8% (4)**	**30.8% (4)**	15.4% (2)	0.0% (0)	23.1% (3)	13
Industry Sector Information	30.8% (4)	**46.2% (6)**	7.7% (1)	7.7% (1)	7.7% (1)	13
Vendor Database	7.7% (1)	**30.8% (4)**	**30.8% (4)**	7.7% (1)	23.1% (3)	13
Case Studies	**53.8% (7)**	30.8% (4)	7.7% (1)	0.0% (0)	7.7% (1)	13
Listservs	**30.8% (4)**	23.1% (3)	23.1% (3)	0.0% (0)	23.1% (3)	13
Rapid Response	7.7% (1)	23.1% (3)	15.4% (2)	0.0% (0)	**53.8% (7)**	13
P2 Results Data System (Measurement Tool)	23.1% (3)	**38.5% (5)**	7.7% (1)	0.0% (0)	30.8% (4)	13
P2 Planner	7.7% (1)	30.8% (4)	7.7% (1)	15.4% (2)	**38.5% (5)**	13
P2 Options	**30.8% (4)**	**30.8% (4)**	7.7% (1)	0.0% (0)	**30.8% (4)**	13
Spanish Materials	7.7% (1)	0.0% (0)	7.7% (1)	7.7% (1)	**76.9% (10)**	13
RENEW (Resource Exchange)	30.8% (4)	30.8% (4)	0.0% (0)	0.0% (0)	**38.5% (5)**	13
Workshops/Presentations	23.1% (3)	**30.8% (4)**	15.4% (2)	0.0% (0)	**30.8% (4)**	13
Site Visits	30.8% (4)	7.7% (1)	7.7% (1)	0.0% (0)	**53.8% (7)**	13
					answered question	13
					skipped question	12
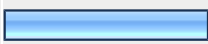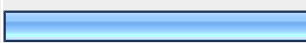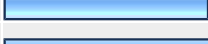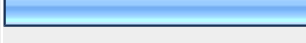
16. 7. What information did you use to improve or influence your clients' understanding of environmental practices to reduce pollution? (Check all that apply.)

		Response Percent	Response Count
Provided training, workshop, and/or conference information		46.2%	6
Provided information on technical assistance providers		30.8%	4
Provided Topic Hub information		**53.8%**	7
Provided vendor information		38.5%	5
Other pollution prevention technical assistance. If so, please specify.		23.1%	3
		answered question	13
		skipped question	12

Page: Questions for Assistance Provider Community (continued)

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17. 8. What action(s) have your clients taken to improve environmental practices, in whole or in part, due to information you have found through the Zero Waste Network and/or P2Rx? (Check all that apply.)
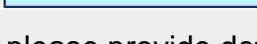
		Response Percent	Response Count
Changed a pollution prevention process or practice (i.e., implemented pollution prevention)		53.8%	7

Identified a pollution prevention opportunity	**84.6%**	11
Purchased new process equipment to prevent pollution	30.8%	4
Implemented energy conservation measures	46.2%	6
Switched to renewable energy	0.0%	0
Contacted a vendor	30.8%	4
Implemented material or waste recycling system	46.2%	6
Changed handling of waste or emission	53.8%	7
Installed pollution control equipment (e.g., scrubbers, control technique)	7.7%	1
Installed a waste treatment system	7.7%	1
No process changes were taken	15.4%	2
Other (please specify)	0.0%	0
	answered question	13
	skipped question	12
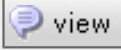
18. 9. Please identify whether your client(s) reduced or eliminated pollutant(s) as a result of the Zero Waste Network and/or P2Rx use. (Check all that apply.)

	Response Percent	Response Count
Reduced non-hazardous waste (solid waste)	30.8%	4
Eliminated non-hazardous waste (solid waste)	15.4%	2
Reduced hazardous waste or hazardous materials	30.8%	4
Eliminated hazardous waste or hazardous materials	0.0%	0
Reduced fugitive air emissions	7.7%	1
Eliminated air emissions	7.7%	1
Reduced waste water pollution	**38.5%**	5
Eliminated pollutant waste water	23.1%	3
Don't Know	23.1%	3
None	0.0%	0
Other (please specify)	23.1%	3
	answered question	13
	skipped question	12

19. 10. Has using the Zero Waste Network and/or P2Rx or the action(s) taken above resulted in cost savings to your client? (Cost includes time as well as dollars.) (Check only one answer.)

	Response Percent	Response Count
Yes	**61.5%**	8
No	0.0%	0
Do not know	38.5%	5
If yes, please provide details.		6
	answered question	13

		skipped question	12

20. 11. Has using the Zero Waste Network and/or P2Rx saved you time or money in serving your client(s)? (Check only one answer.)

		Response Percent	Response Count
Yes		**46.2%**	6
No		7.7%	1
Do not know		**46.2%**	6
If yes, please provide details.		view	4
		answered question	**13**
		skipped question	**12**

View Summary

Page: Opening Question

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1. 1. Please select one option from the following list:

	Response Percent	Response Count
I primarily use P2RIC and/or P2Rx to find environmental assistance information to apply to my own organization or facility.	47.5%	38
I primarily use P2RIC and/or P2Rx in my capacity as a provider of environmental assistance to others outside my organization.	**52.5%**	42
	answered question	**80**
	skipped question	**0**

Page: Questions for Regulated Community

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2. 2. What type of organization do you represent? (Check all that apply.)

	Response Percent	Response Count
Federal government	3.1%	1
State government	9.4%	3
Local government	**37.5%**	12
Manufacturing	6.3%	2
Service industry	6.3%	2
Educational institution	12.5%	4
Nonprofit organization	12.5%	4
Wastewater treatment industry	6.3%	2
Other (please specify)	12.5%	4
	answered question	**32**
	skipped question	**48**

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3. 3. How often do you use P2RIC and/or P2Rx? (Check only one answer.)

	Response Percent	Response Count
First time user	21.9%	7
Weekly	9.4%	3
Monthly	21.9%	7
Every three months	**31.3%**	10
Other (please specify)	15.6%	5

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	answered question	32
	skipped question	48

4. 4. How did you hear about P2RIC and/or P2Rx? (Check only one answer.)

	Response Percent	Response Count
Search engine	9.4%	3
Link from another website	6.3%	2
E-mail message or listserv	**53.1%**	17
Conference or meeting	6.3%	2
Brochure or newsletter	0.0%	0
Colleague	12.5%	4
Vendor	0.0%	0
Assistance program	0.0%	0
Other (please specify)	12.5%	4
	answered question	32
	skipped question	48

5. 5. P2RIC and/or P2Rx helps me to improve my awareness of environmental practices to reduce pollution. (Check only one answer.)

	Response Percent	Response Count
Strongly Agree	12.5%	4
Agree	**53.1%**	17
Neutral	28.1%	9
Disagree	0.0%	0
Strongly Disagree	0.0%	0
Do Not Use	6.3%	2
	answered question	32
	skipped question	48
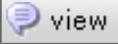
Page: Questions for Regulated Community (continued)

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6. 6. How useful were P2RIC and/or P2Rx resources in meeting your needs? (Please make one selection for each resource listed.)

	Very useful	Useful	Somewhat useful	Not useful	Unaware of-Do not use	Response Count
Topic Hubs	7.4% (2)	33.3% (9)	18.5% (5)	0.0% (0)	**40.7% (11)**	27
P2 Programs Directory (i.e., Service Provider Directories)	3.7% (1)	25.9% (7)	18.5% (5)	0.0% (0)	**51.9% (14)**	27
News (i.e., P2/Environmental News)	22.2% (6)	**51.9% (14)**	14.8% (4)	3.7% (1)	7.4% (2)	27
Library (i.e., Virtual Library)	11.1% (3)	14.8% (4)	14.8% (4)	3.7% (1)	**55.6% (15)**	27
Industry Sector Information	7.4% (2)	11.1% (3)	14.8% (4)	3.7% (1)	**63.0% (17)**	27
Vendor Database	3.7% (1)	11.1% (3)	7.4% (2)	0.0% (0)	**77.8% (21)**	27
Case Studies	7.4% (2)	29.6% (8)	7.4% (2)	0.0% (0)	**55.6% (15)**	27
Listservs (i.e., Discussion Groups)	11.1% (3)	**51.9% (14)**	22.2% (6)	0.0% (0)	14.8% (4)	27
Rapid Response (i.e., Research Assistance)	3.7% (1)	14.8% (4)	3.7% (1)	0.0% (0)	**77.8% (21)**	27

P2 Results Data System (Measurement Tool)	0.0% (0)	14.8% (4)	3.7% (1)	3.7% (1)	**77.8% (21)**	27
P2RIC RSS News Feed	7.4% (2)	29.6% (8)	7.4% (2)	0.0% (0)	**55.6% (15)**	27
R7 Roundtable	11.1% (3)	22.2% (6)	3.7% (1)	3.7% (1)	**59.3% (16)**	27
P2 Marketing Tools	3.7% (1)	14.8% (4)	7.4% (2)	0.0% (0)	**74.1% (20)**	27
Calendars	11.1% (3)	22.2% (6)	11.1% (3)	0.0% (0)	**55.6% (15)**	27
					answered question	27
					skipped question	53

7. 7. How did you utilize the P2RIC and/or P2Rx website(s)? (Check all that apply.)

		Response Percent	Response Count
Reviewed Topic Hub information (or other P2RIC/ P2Rx website information)		**63.0%**	17
Attended a training, workshop, or conference promoted by a P2Rx Center		14.8%	4
Asked for pollution prevention technical assistance		3.7%	1
Requested additional resources from a P2Rx Center		11.1%	3
Contacted a technical assistance provider		3.7%	1
view Other (please specify)		14.8%	4
	answered question		27
	skipped question		53

Page: Questions for Regulated Community (continued)

8. 8. What action(s) have you taken to improve environmental practices, in whole or in part, due to information you have found through P2RIC and/or P2Rx? (Check all that apply.)

		Response Percent	Response Count
Changed a pollution prevention process or practice (i.e., implemented pollution prevention)		15.4%	4
Identified a pollution prevention opportunity		34.6%	9
Purchased new process equipment to prevent pollution		3.8%	1
Implemented energy conservation measures		15.4%	4
Switched to renewable energy		7.7%	2
Contacted a vendor		7.7%	2
Implemented material or waste recycling system		15.4%	4
Changed handling of waste or emission		7.7%	2
Installed pollution control equipment (e.g., scrubbers, control technique)		0.0%	0
Installed a waste treatment system		0.0%	0

No process changes were taken		50.0%	13
view Other (please specify)		3.8%	1
		answered question	**26**
		skipped question	**54**

9. 9. Please identify whether you reduced or eliminated pollutant(s) as a result of P2RIC and/or P2Rx use. (Check all that apply.)

		Response Percent	Response Count
Reduced non-hazardous waste (solid waste)		19.2%	5
Eliminated non-hazardous waste (solid waste)		3.8%	1
Reduced hazardous waste or hazardous materials		7.7%	2
Eliminated hazardous waste or hazardous materials		0.0%	0
Reduced fugitive air emissions		0.0%	0
Eliminated air emissions		0.0%	0
Reduced waste water pollution		7.7%	2
Eliminated pollutant waste water		0.0%	0
Don't Know		26.9%	7
None		**46.2%**	12
view Other (please specify)		7.7%	2
		answered question	**26**
		skipped question	**54**

10. 10. Has using P2RIC and/or P2Rx or the action(s) taken above resulted in cost savings to you? (Cost includes time as well as dollars.) (Check only one answer.)

		Response Percent	Response Count
Yes		15.4%	4
No		34.6%	9
Do not know		**50.0%**	13
If yes, please provide details.		view	3
		answered question	**26**
		skipped question	**54**

Page: Questions for Assistance Provider Community

11. 2. What type of organization do you represent? (Check all that apply.)

		Response Percent	Response Count
Federal government		0.0%	0
State government		**30.8%**	12
Local government		17.9%	7

Manufacturing		2.6%	1
Service industry		2.6%	1
Educational institution		23.1%	9
Nonprofit organization		25.6%	10
Wastewater treatment industry		0.0%	0
[view] Other (please specify)		2.6%	1
	answered question		39
	skipped question		41

12. 3. How often do you use P2RIC and/or P2Rx? (Check only one answer.)

	Response Percent	Response Count
First time user	10.3%	4
Weekly	10.3%	4
Monthly	28.2%	11
Every three months	**35.9%**	14
[view] Other (please specify)	15.4%	6
answered question		39
skipped question		41

13. 4. How did you hear about P2RIC and/or P2Rx? (Check only one answer.)

	Response Percent	Response Count
Search engine	5.1%	2
Link from another website	7.7%	3
E-mail message or listserv	25.6%	10
Conference or meeting	17.9%	7
Brochure or newsletter	0.0%	0
Colleague	**30.8%**	12
Vendor	2.6%	1
Assistance program	5.1%	2
[view] Other (please specify)	5.1%	2
answered question		39
skipped question		41

14. 5. Access to the P2RIC and/or P2Rx information has improved my ability to provide technical assistance to my clients. (Check only one answer.)
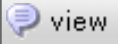
	Response Percent	Response Count
Strongly Agree	5.1%	2
Agree	**48.7%**	19
Neutral	33.3%	13
Disagree	5.1%	2
Strongly Disagree	2.6%	1
Do Not Use	5.1%	2
answered question		39
skipped question		41

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15. 6. How useful were P2RIC and/or P2Rx resources in meeting your needs? (Please make one selection for each resource listed.)

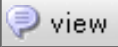|	Very useful	Useful	Somewhat useful	Not useful	Unaware of-Do not use	Response Count
Topic Hubs	19.2% (5)	23.1% (6)	**30.8% (8)**	3.8% (1)	23.1% (6)	26
P2 Programs Directory (i.e., Service Provider Directories)	7.7% (2)	**42.3% (11)**	23.1% (6)	3.8% (1)	23.1% (6)	26
News (i.e., P2/Environmental News)	19.2% (5)	**53.8% (14)**	19.2% (5)	3.8% (1)	3.8% (1)	26
Library (i.e., Virtual Library)	11.5% (3)	**42.3% (11)**	23.1% (6)	0.0% (0)	23.1% (6)	26
Industry Sector Information	11.5% (3)	34.6% (9)	11.5% (3)	3.8% (1)	**38.5% (10)**	26
Vendor Database	3.8% (1)	15.4% (4)	26.9% (7)	3.8% (1)	**50.0% (13)**	26
Case Studies	3.8% (1)	30.8% (8)	26.9% (7)	3.8% (1)	**34.6% (9)**	26
Listservs (i.e., Discussion Groups)	30.8% (8)	**34.6% (9)**	19.2% (5)	3.8% (1)	11.5% (3)	26
Rapid Response (i.e., Research Assistance)	11.5% (3)	23.1% (6)	19.2% (5)	3.8% (1)	**42.3% (11)**	26
P2 Results Data System (Measurement Tool)	7.7% (2)	19.2% (5)	30.8% (8)	7.7% (2)	**34.6% (9)**	26
P2RIC RSS News Feed	11.5% (3)	19.2% (5)	26.9% (7)	3.8% (1)	**38.5% (10)**	26
R7 Roundtable	19.2% (5)	**34.6% (9)**	23.1% (6)	0.0% (0)	23.1% (6)	26
P2 Marketing Tools	0.0% (0)	19.2% (5)	30.8% (8)	3.8% (1)	**46.2% (12)**	26
Calendars	11.5% (3)	26.9% (7)	**30.8% (8)**	7.7% (2)	23.1% (6)	26
					answered question	26
					skipped question	54

16. 7. What information did you use to improve or influence your clients' understanding of environmental practices to reduce pollution? (Check all that apply.)

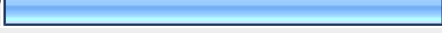|		Response Percent	Response Count
Provided training, workshop, and/or conference information		**65.4%**	17
Provided information on technical assistance providers		38.5%	10
Provided Topic Hub information		46.2%	12
Provided vendor information		11.5%	3
Other pollution prevention technical assistance. If so, please specify.		23.1%	6
		answered question	26
		skipped question	54

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17. 8. What action(s) have your clients taken to improve environmental practices, in whole or in part, due to information you have found through P2RIC and/or P2Rx? (Check all that apply.)

	Response Percent	Response Count
Changed a pollution prevention process or practice (i.e., implemented pollution prevention)	**45.8%**	11
Identified a pollution prevention opportunity	**45.8%**	11
Purchased new process equipment to prevent pollution	8.3%	2
Implemented energy conservation measures	37.5%	9
Switched to renewable energy	0.0%	0
Contacted a vendor	29.2%	7
Implemented material or waste recycling system	**45.8%**	11
Changed handling of waste or emission	37.5%	9
Installed pollution control equipment (e.g., scrubbers, control technique)	4.2%	1
Installed a waste treatment system	4.2%	1
No process changes were taken	20.8%	5
🗩 view Other (please specify)	12.5%	3
answered question		24
skipped question		56
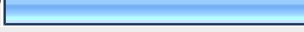
18. 9. Please identify whether your client(s) reduced or eliminated pollutant(s) as a result of P2RIC and/or P2Rx use. (Check all that apply.)

	Response Percent	Response Count
Reduced non-hazardous waste (solid waste)	**45.8%**	11
Eliminated non-hazardous waste (solid waste)	8.3%	2
Reduced hazardous waste or hazardous materials	33.3%	8
Eliminated hazardous waste or hazardous materials	4.2%	1
Reduced fugitive air emissions	12.5%	3
Eliminated air emissions	4.2%	1
Reduced waste water pollution	29.2%	7
Eliminated pollutant waste water	4.2%	1
Don't Know	37.5%	9
None	8.3%	2
🗩 view Other (please specify)	8.3%	2
answered question		24
skipped question		56

19. 10. Has using P2RIC and/or P2Rx or the action(s) taken above resulted in cost savings to your client? (Cost includes time as well as dollars.) (Check only one answer.)

		Response Percent	Response Count
Yes		29.2%	7
No		4.2%	1
Do not know		**66.7%**	16
	If yes, please provide details.		0
	answered question		**24**
	skipped question		**56**

20. 11. Has using P2RIC and/or P2Rx saved you time or money in serving your client(s)? (Check only one answer.)

		Response Percent	Response Count
Yes		**45.8%**	11
No		8.3%	2
Do not know		**45.8%**	11
	If yes, please provide details.		0
	answered question		**24**
	skipped question		**56**

View Summary

Page: Opening Question

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1. 1. Please select one option from the following list:

		Response Percent	Response Count
I primarily use Peaks to Prairies and/or P2Rx to find environmental assistance information to apply to my own organization or facility.		**66.7%**	32
I primarily use Peaks to Prairies and/or P2Rx in my capacity as a provider of environmental assistance to others outside my organization.		33.3%	16
	answered question		**48**
	skipped question		**0**
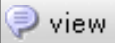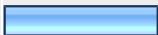
Page: Questions for Regulated Community

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2. 2. What type of organization do you represent? (Check all that apply.)
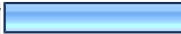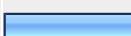
		Response Percent	Response Count
Federal government		19.2%	5
State government		26.9%	7
Local government		3.8%	1
Manufacturing		0.0%	0
Service industry		19.2%	5
Educational institution		7.7%	2
Nonprofit organization		11.5%	3
Wastewater treatment industry		3.8%	1
view **Other (please specify)**		**34.6%**	9
	answered question		**26**
	skipped question		**22**

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3. 3. How often do you use Peaks to Prairies and/or P2Rx? (Check only one answer.)
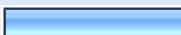
		Response Percent	Response Count
First time user		26.9%	7
Weekly		0.0%	0
Monthly		19.2%	5
Every three months		**30.8%**	8

		Response Percent	Response Count
view Other (please specify)		23.1%	6
	answered question		26
	skipped question		22

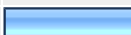## 4. 4. How did you hear about Peaks to Prairies and/or P2Rx? (Check only one answer.)

		Response Percent	Response Count
Search engine		11.5%	3
Link from another website		15.4%	4
E-mail message or listserv		**26.9%**	7
Conference or meeting		7.7%	2
Brochure or newsletter		0.0%	0
Colleague		19.2%	5
Vendor		0.0%	0
Assistance program		0.0%	0
view Other (please specify)		19.2%	5
	answered question		26
	skipped question		22

5. 5. Peaks to Prairies and/or P2Rx helps me to improve my awareness of environmental practices to reduce pollution. (Check only one answer.)

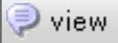|		Response Percent	Response Count
Strongly Agree		26.9%	7
Agree		**38.5%**	10
Neutral		15.4%	4
Disagree		0.0%	0
Strongly Disagree		0.0%	0
Do Not Use		19.2%	5
	answered question		26
	skipped question		22

Page: Questions for Regulated Community (continued)

6. 6. How useful were Peaks to Prairies and/or P2Rx resources in meeting your needs? (Please make one selection for each resource listed.)

	Very useful	Useful	Somewhat useful	Not useful	Unaware of-Do not use	Response Count
Topic Hubs	25.0% (5)	**30.0% (6)**	15.0% (3)	0.0% (0)	**30.0% (6)**	20
P2 Programs Directory	15.0% (3)	**45.0% (9)**	10.0% (2)	0.0% (0)	30.0% (6)	20
News (i.e., National P2 News or Region 8 News and Events)	25.0% (5)	20.0% (4)	20.0% (4)	0.0% (0)	**35.0% (7)**	20
Library (i.e., Virtual Card Catalogue, P2 Bookmarks, or other P2Rx online Libraries)	15.0% (3)	15.0% (3)	25.0% (5)	0.0% (0)	**45.0% (9)**	20
Industry Sector Information (i.e., Featured Resources, Green Parks)	**30.0% (6)**	25.0% (5)	25.0% (5)	0.0% (0)	20.0% (4)	20

Vendor Database	15.0% (3)	15.0% (3)	25.0% (5)	5.0% (1)	**40.0% (8)**	20
Case Studies (including Homes-Across-America profiles)	**45.0% (9)**	10.0% (2)	15.0% (3)	0.0% (0)	30.0% (6)	20
Listservs	20.0% (4)	20.0% (4)	20.0% (4)	0.0% (0)	**40.0% (8)**	20
Rapid Response (i.e., Help Desk)	15.0% (3)	10.0% (2)	25.0% (5)	0.0% (0)	**50.0% (10)**	20
P2 Results Data System (Measurement Tool)	5.0% (1)	30.0% (6)	25.0% (5)	0.0% (0)	**40.0% (8)**	20
Tribal Pollution Prevention Resources	0.0% (0)	5.0% (1)	15.0% (3)	5.0% (1)	**75.0% (15)**	20
					answered question	20
					skipped question	28

7. 7. How did you utilize the Peaks to Prairies and/or P2Rx website(s)? (Check all that apply.)

		Response Percent	Response Count
Reviewed Topic Hub information (or other Peaks to Prairies/P2Rx website information)		**70.0%**	14
Attended a training, workshop, or conference promoted by a P2Rx Center		15.0%	3
Asked for pollution prevention technical assistance		20.0%	4
Requested additional resources from a P2Rx Center		15.0%	3
Contacted a technical assistance provider		10.0%	2
Other (please specify)		25.0%	5
		answered question	20
		skipped question	28

Page: Questions for Regulated Community (continued)

8. 8. What action(s) have you taken to improve environmental practices, in whole or in part, due to information you have found through Peaks to Prairies and/or P2Rx? (Check all that apply.)

		Response Percent	Response Count
Changed a pollution prevention process or practice (i.e., implemented pollution prevention)		31.6%	6
Identified a pollution prevention opportunity		**57.9%**	11
Purchased new process equipment to prevent pollution		10.5%	2
Implemented energy conservation measures		42.1%	8
Switched to renewable energy		5.3%	1
Contacted a vendor		21.1%	4
Implemented material or waste recycling system		42.1%	8
Changed handling of waste or emission		10.5%	2

Installed pollution control equipment (e.g., scrubbers, control technique)		5.3%	1
Installed a waste treatment system		5.3%	1
No process changes were taken		21.1%	4
[view] Other (please specify)		10.5%	2
		answered question	**19**
		skipped question	**29**

9. 9. Please identify whether you reduced or eliminated pollutant(s) as a result of Peaks to Prairies and/or P2Rx use. (Check all that apply.)
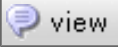
		Response Percent	Response Count
Reduced non-hazardous waste (solid waste)		**36.8%**	7
Eliminated non-hazardous waste (solid waste)		10.5%	2
Reduced hazardous waste or hazardous materials		31.6%	6
Eliminated hazardous waste or hazardous materials		0.0%	0
Reduced fugitive air emissions		15.8%	3
Eliminated air emissions		0.0%	0
Reduced waste water pollution		15.8%	3
Eliminated pollutant waste water		5.3%	1
Don't Know		15.8%	3
None		21.1%	4
[view] Other (please specify)		15.8%	3
		answered question	**19**
		skipped question	**29**

10. 10. Has using Peaks to Prairies and/or P2Rx or the action(s) taken above resulted in cost savings to you? (Cost includes time as well as dollars.) (Check only one answer.)
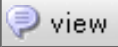
		Response Percent	Response Count
Yes		36.8%	7
No		15.8%	3
Do not know		**47.4%**	9
If yes, please provide details.	[view]		4
		answered question	**19**
		skipped question	**29**

Page: Questions for Assistance Provider Community

11. 2. What type of organization do you represent? (Check all that apply.)

	Response Percent	Response Count
Federal government	14.3%	2
State government	**42.9%**	6
Local government	0.0%	0
Manufacturing	7.1%	1
Service industry	14.3%	2
Educational institution	28.6%	4
Nonprofit organization	21.4%	3
Wastewater treatment industry	0.0%	0
[view] Other (please specify)	14.3%	2
	answered question	14
	skipped question	34

12. 3. How often do you use Peaks to Prairies and/or P2Rx? (Check only one answer.)

	Response Percent	Response Count
First time user	**21.4%**	3
Weekly	14.3%	2
Monthly	**21.4%**	3
Every three months	**21.4%**	3
[view] Other (please specify)	21.4%	3
	answered question	14
	skipped question	34

13. 4. How did you hear about Peaks to Prairies and/or P2Rx? (Check only one answer.)

	Response Percent	Response Count
Search engine	0.0%	0
Link from another website	0.0%	0
E-mail message or listserv	35.7%	5
Conference or meeting	0.0%	0
Brochure or newsletter	0.0%	0
Colleague	**42.9%**	6
Vendor	0.0%	0
Assistance program	0.0%	0
[view] Other (please specify)	21.4%	3
	answered question	14
	skipped question	34

14. 5. Access to the Peaks to Prairies and/or P2Rx information has improved my ability to provide technical assistance to my clients. (Check only one answer.)

	Response Percent	Response Count
Strongly Agree	7.1%	1
Agree	**50.0%**	7
Neutral	35.7%	5
Disagree	0.0%	0

Strongly Disagree		0.0%	0
Do Not Use		7.1%	1
		answered question	**14**
		skipped question	**34**

Page: Questions for Assistance Provider Community (continued)

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15. 6. How useful were Peaks to Prairies and/or P2Rx resources in meeting your needs? (Please make one selection for each resource listed.)

	Very useful	Useful	Somewhat useful	Not useful	Unaware of-Do not use	Response Count
Topic Hubs	23.1% (3)	30.8% (4)	7.7% (1)	0.0% (0)	**38.5% (5)**	13
P2 Programs Directory	15.4% (2)	15.4% (2)	23.1% (3)	0.0% (0)	**46.2% (6)**	13
News (i.e., National P2 News or Region 8 News and Events)	23.1% (3)	**30.8% (4)**	23.1% (3)	0.0% (0)	23.1% (3)	13
Library (i.e., Virtual Card Catalogue, P2 Bookmarks, or other P2Rx online Libraries)	15.4% (2)	15.4% (2)	15.4% (2)	15.4% (2)	**38.5% (5)**	13
Industry Sector Information (i.e., Featured Resources, Green Parks)	7.7% (1)	23.1% (3)	23.1% (3)	0.0% (0)	**46.2% (6)**	13
Vendor Database	7.7% (1)	15.4% (2)	15.4% (2)	0.0% (0)	**61.5% (8)**	13
Case Studies (including Homes-Across-America profiles)	7.7% (1)	**38.5% (5)**	15.4% (2)	0.0% (0)	**38.5% (5)**	13
Listservs	23.1% (3)	15.4% (2)	**30.8% (4)**	0.0% (0)	**30.8% (4)**	13
Rapid Response (i.e., Help Desk)	0.0% (0)	30.8% (4)	15.4% (2)	0.0% (0)	**53.8% (7)**	13
P2 Results Data System (Measurement Tool)	15.4% (2)	23.1% (3)	15.4% (2)	7.7% (1)	**38.5% (5)**	13
Tribal Pollution Prevention Resources	15.4% (2)	7.7% (1)	23.1% (3)	0.0% (0)	**53.8% (7)**	13
					answered question	**13**
					skipped question	**35**

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16. 7. What information did you use to improve or influence your clients' understanding of environmental practices to reduce pollution? (Check all that apply.)
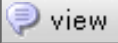
	Response Percent	Response Count
Provided training, workshop, and/or conference information	**61.5%**	8
Provided information on technical assistance providers	38.5%	5
Provided Topic Hub information	38.5%	5
Provided vendor information	15.4%	2
🗩 view Other pollution prevention technical assistance. If so, please specify.	30.8%	4
	answered question	**13**
	skipped question	**35**

Page: Questions for Assistance Provider Community (continued)
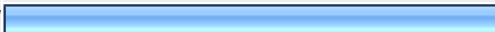
17. 8. What action(s) have your clients taken to improve environmental practices, in whole or in part, due to information you have found through Peaks to Prairies and/or P2Rx? (Check all that apply.)

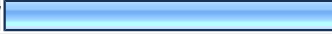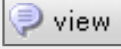|		Response Percent	Response Count
Changed a process or practice		**50.0%**	6
Identified a pollution prevention opportunity		**50.0%**	6
Purchased new process equipment to prevent pollution		8.3%	1
Implemented energy conservation measures		25.0%	3
Switched to renewable energy		8.3%	1
Contacted a vendor		25.0%	3
Implemented material or waste recycling system		25.0%	3
Changed handling of waste or emission		25.0%	3
Installed pollution control equipment (e.g., scrubbers, control technique)		0.0%	0
Installed a waste treatment system		0.0%	0
No process changes were taken		33.3%	4
view Other (please specify)		16.7%	2
	answered question		12
	skipped question		36

18. 9. Please identify whether your client(s) reduced or eliminated pollutant(s) as a result of Peaks to Prairies and/or P2Rx use. (Check all that apply.)

		Response Percent	Response Count
Reduced non-hazardous waste (solid waste)		**50.0%**	6
Eliminated non-hazardous waste (solid waste)		8.3%	1
Reduced hazardous waste or hazardous materials		**50.0%**	6
Eliminated hazardous waste or hazardous materials		16.7%	2
Reduced fugitive air emissions		8.3%	1
Eliminated air emissions		16.7%	2
Reduced waste water pollution		25.0%	3
Eliminated pollutant waste water		8.3%	1
Don't Know		33.3%	4
None		8.3%	1
view Other (please specify)		8.3%	1
	answered question		12
	skipped question		36

19. 10. Has using Peaks to Prairies and/or P2Rx or the action(s) taken above resulted in cost savings to your client? (Cost includes time as well as dollars.) (Check only one answer.)

	Response Percent	Response Count
Yes	25.0%	3
No	0.0%	0
Do not know	**75.0%**	9
If yes, please provide details.	view	2
	answered question	**12**
	skipped question	**36**

20. 11. Has using Peaks to Prairies and/or P2Rx saved you time or money in serving your client(s)? (Check only one answer.)

	Response Percent	Response Count
Yes	41.7%	5
No	8.3%	1
Do not know	**50.0%**	6
If yes, please provide details.	view	2
	answered question	**12**
	skipped question	**36**

View Summary

Page: Opening Question

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1. 1. Please select one option from the following list:

		Response Percent	Response Count
I primarily use WRPPN and/or P2Rx to find environmental assistance information to apply to my own organization or facility.		35.1%	27
I primarily use WRPPN and/or P2Rx in my capacity as a provider of environmental assistance to others outside my organization.		**64.9%**	50
	answered question		**77**
	skipped question		**0**

Page: Questions for Regulated Community

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2. 2. What type of organization do you represent? (Check all that apply.)

		Response Percent	Response Count
Federal government		19.2%	5
State government		11.5%	3
Local government		**30.8%**	8
Manufacturing		15.4%	4
Service industry		0.0%	0
Educational institution		0.0%	0
Nonprofit organization		3.8%	1
Wastewater treatment industry		3.8%	1
view Other (please specify)		15.4%	4
	answered question		**26**
	skipped question		**51**

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3. 3. How often do you use WRPPN and/or P2Rx? (Check only one answer.)

		Response Percent	Response Count
First time user		**26.9%**	7
Weekly		23.1%	6
Monthly		15.4%	4
Every three months		15.4%	4
view Other (please specify)		19.2%	5

	answered question	26
	skipped question	51

4. 4. How did you hear about WRPPN and/or P2Rx? (Check only one answer.)

		Response Percent	Response Count
Search engine		11.5%	3
Link from another website		0.0%	0
E-mail message or listserv		7.7%	2
Conference or meeting		**34.6%**	9
Brochure or newsletter		3.8%	1
Colleague		30.8%	8
Vendor		0.0%	0
Assistance program		3.8%	1
Other (please specify)		7.7%	2
	answered question		26
	skipped question		51

5. 5. WRPPN and/or P2Rx helps me to improve my awareness of environmental practices to reduce pollution. (Check only one answer.)

	Response Percent	Response Count
Strongly Agree	**46.2%**	12
Agree	30.8%	8
Neutral	19.2%	5
Disagree	0.0%	0
Strongly Disagree	0.0%	0
Do Not Use	3.8%	1
answered question		26
skipped question		51

Page: Questions for Regulated Community (continued)

6. 6. How useful were WRPPN and/or P2Rx resources in meeting your needs? (Please make one selection for each resource listed.)

	Very useful	Useful	Somewhat useful	Not useful	Unaware of-Do not use	Response Count
Topic Hubs	20.0% (4)	**40.0% (8)**	10.0% (2)	0.0% (0)	30.0% (6)	20
P2 Programs Directory	15.0% (3)	**45.0% (9)**	15.0% (3)	5.0% (1)	20.0% (4)	20
News	20.0% (4)	**40.0% (8)**	10.0% (2)	0.0% (0)	30.0% (6)	20
Library	**30.0% (6)**	20.0% (4)	10.0% (2)	15.0% (3)	25.0% (5)	20
Industry Sector Information	20.0% (4)	**55.0% (11)**	0.0% (0)	10.0% (2)	15.0% (3)	20
Vendor Database	0.0% (0)	**40.0% (8)**	20.0% (4)	10.0% (2)	30.0% (6)	20
Case Studies	10.0% (2)	**40.0% (8)**	10.0% (2)	5.0% (1)	35.0% (7)	20
Listservs	25.0% (5)	**40.0% (8)**	10.0% (2)	0.0% (0)	25.0% (5)	20
Rapid Response	5.0% (1)	**35.0% (7)**	20.0% (4)	5.0% (1)	**35.0% (7)**	20
P2 Results Data System (Measurement Tool)	0.0% (0)	25.0% (5)	15.0% (3)	10.0% (2)	**50.0% (10)**	20
	answered question					20

		skipped question	57

7. 7. How did you utilize the WRPPN and/or P2Rx website(s)? (Check all that apply.)
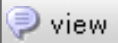
		Response Percent	Response Count
Reviewed Topic Hub information (or other P2Rx website information)		50.0%	10
Attended a training, workshop, or conference promoted by a P2Rx Center		**80.0%**	16
Asked for pollution prevention technical assistance		25.0%	5
Requested additional resources from a P2Rx Center		0.0%	0
Contacted a technical assistance provider		20.0%	4
Other (please specify)		10.0%	2
		answered question	20
		skipped question	57

Page: Questions for Regulated Community (continued)

8. 8. What action(s) have you taken to improve environmental practices, in whole or in part, due to information you have found through WRPPN and/or P2Rx? (Check all that apply.)

		Response Percent	Response Count
Changed a pollution prevention process or practice (i.e., implemented pollution prevention)		47.4%	9
Identified a pollution prevention opportunity		**78.9%**	15
Purchased new process equipment to prevent pollution		5.3%	1
Implemented energy conservation measures		15.8%	3
Switched to renewable energy		0.0%	0
Contacted a vendor		15.8%	3
Implemented material or waste recycling system		5.3%	1
Changed handling of waste or emission		31.6%	6
Installed pollution control equipment (e.g., scrubbers, control technique)		0.0%	0
Installed a waste treatment system		0.0%	0
No process changes were taken		15.8%	3
Other (please specify)		10.5%	2
		answered question	19
		skipped question	58

9. 9. Please identify whether you reduced or eliminated pollutant(s) as a result of WRPPN and/or P2Rx use. (Check all that apply.)

		Response Percent	Response Count
Reduced non-hazardous waste (solid waste)		36.8%	7
Eliminated non-hazardous waste (solid waste)		10.5%	2
Reduced hazardous waste or hazardous materials		**42.1%**	8
Eliminated hazardous waste or hazardous materials		10.5%	2
Reduced fugitive air emissions		10.5%	2
Eliminated air emissions		5.3%	1
Reduced waste water pollution		10.5%	2
Eliminated pollutant waste water		5.3%	1
Don't Know		10.5%	2
None		21.1%	4
view Other (please specify)		15.8%	3
	answered question		19
	skipped question		58

10. 10. Has using WRPPN and/or P2Rx or the action(s) taken above resulted in cost savings to you? (Cost includes time as well as dollars.) (Check only one answer.)

		Response Percent	Response Count
Yes		**52.6%**	10
No		15.8%	3
Do not know		31.6%	6
If yes, please provide details.	view		4
	answered question		19
	skipped question		58

Page: Questions for Assistance Provider Community
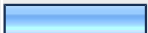
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11. 2. What type of organization do you represent? (Check all that apply.)

		Response Percent	Response Count
Federal government		6.4%	3
State government		**29.8%**	14
Local government		**29.8%**	14
Manufacturing		4.3%	2
Service industry		4.3%	2
Educational institution		6.4%	3
Nonprofit organization		12.8%	6
Wastewater treatment industry		8.5%	4

	view	Other (please specify)		6.4%	3
			answered question		47
			skipped question		30

12. 3. How often do you use WRPPN and/or P2Rx? (Check only one answer.)

	Response Percent	Response Count
First time user	10.6%	5
Weekly	**25.5%**	12
Monthly	17.0%	8
Every three months	**25.5%**	12
Other (please specify)	21.3%	10
answered question		47
skipped question		30

13. 4. How did you hear about WRPPN and/or P2Rx? (Check only one answer.)

	Response Percent	Response Count
Search engine	10.6%	5
Link from another website	4.3%	2
E-mail message or listserv	19.1%	9
Conference or meeting	23.4%	11
Brochure or newsletter	0.0%	0
Colleague	**31.9%**	15
Vendor	0.0%	0
Assistance program	4.3%	2
Other (please specify)	6.4%	3
answered question		47
skipped question		30

14. 5. Access to the WRPPN and/or P2Rx information has improved my ability to provide technical assistance to my clients. (Check only one answer.)

	Response Percent	Response Count
Strongly Agree	31.9%	15
Agree	**46.8%**	22
Neutral	12.8%	6
Disagree	2.1%	1
Strongly Disagree	2.1%	1
Do Not Use	4.3%	2
answered question		47
skipped question		30

Page: Questions for Assistance Provider Community (continued)

15. 6. How useful were WRPPN and/or P2Rx resources in meeting your needs? (Please make one selection for each resource listed.)

	Very useful	Useful	Somewhat useful	Not useful	Unaware of-Do not use	Response Count
Topic Hubs	**42.5% (17)**	22.5% (9)	10.0% (4)	5.0% (2)	20.0% (8)	40
P2 Programs Directory	20.0% (8)	**40.0% (16)**	10.0% (4)	5.0% (2)	25.0% (10)	40
News	25.0% (10)	**40.0% (16)**	20.0% (8)	0.0% (0)	15.0% (6)	40
Library	20.0% (8)	22.5% (9)	15.0% (6)	0.0% (0)	**42.5% (17)**	40
Industry Sector Information	**32.5% (13)**	20.0% (8)	15.0% (6)	5.0% (2)	27.5% (11)	40
Vendor Database	7.5% (3)	20.0% (8)	17.5% (7)	7.5% (3)	**47.5% (19)**	40
Case Studies	25.0% (10)	20.0% (8)	25.0% (10)	2.5% (1)	**27.5% (11)**	40
Listservs	32.5% (13)	**40.0% (16)**	10.0% (4)	0.0% (0)	17.5% (7)	40
Rapid Response	15.0% (6)	12.5% (5)	17.5% (7)	2.5% (1)	**52.5% (21)**	40
P2 Results Data System (Measurement Tool)	7.5% (3)	12.5% (5)	25.0% (10)	10.0% (4)	**45.0% (18)**	40
					answered question	**40**
					skipped question	**37**

16. 7. What information did you use to improve or influence your clients' understanding of environmental practices to reduce pollution? (Check all that apply.)

		Response Percent	Response Count
Provided training, workshop, and/or conference information		**67.5%**	27
Provided information on technical assistance providers		52.5%	21
Provided Topic Hub information		32.5%	13
Provided vendor information		25.0%	10
view Other pollution prevention technical assistance. If so, please specify.		22.5%	9
	answered question		**40**
	skipped question		**37**

Page: Questions for Assistance Provider Community (continued)

17. 8. What action(s) have your clients taken to improve environmental practices, in whole or in part, due to information you have found through WRPPN and/or P2Rx? (Check all that apply.)

		Response Percent	Response Count
Changed a pollution prevention process or practice (i.e., implemented pollution prevention)		68.4%	26
Identified a pollution prevention opportunity		**78.9%**	30
Purchased new process equipment to prevent pollution		36.8%	14
Implemented energy conservation measures		28.9%	11
Switched to renewable energy		0.0%	0
Contacted a vendor		36.8%	14

Implemented material or waste recycling system	26.3%	10
Changed handling of waste or emission	36.8%	14
Installed pollution control equipment (e.g., scrubbers, control technique)	15.8%	6
Installed a waste treatment system	13.2%	5
No process changes were taken	2.6%	1
view Other (please specify)	18.4%	7
answered question		**38**
skipped question	**39**	

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18. 9. Please identify whether your client(s) reduced or eliminated pollutant(s) as a result of WRPPN and/or P2Rx use. (Check all that apply.)

	Response Percent	Response Count
Reduced non-hazardous waste (solid waste)	52.6%	20
Eliminated non-hazardous waste (solid waste)	23.7%	9
Reduced hazardous waste or hazardous materials	**57.9%**	22
Eliminated hazardous waste or hazardous materials	26.3%	10
Reduced fugitive air emissions	21.1%	8
Eliminated air emissions	10.5%	4
Reduced waste water pollution	39.5%	15
Eliminated pollutant waste water	18.4%	7
Don't Know	21.1%	8
None	5.3%	2
view Other (please specify)	10.5%	4
answered question		**38**
skipped question	**39**	

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19. 10. Has using WRPPN and/or P2Rx or the action(s) taken above resulted in cost savings to your client? (Cost includes time as well as dollars.) (Check only one answer.)

	Response Percent	Response Count
Yes	34.2%	13
No	10.5%	4
Do not know	**55.3%**	21
If yes, please provide details.	view	9
answered question		**38**
skipped question	**39**	

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20. 11. Has using WRPPN and/or P2Rx saved you time or money in serving your client(s)? (Check only one answer.)

	Response Percent	Response Count
Yes	63.2%	24
No	10.5%	4
Do not know	26.3%	10
If yes, please provide details.	view	12
answered question		38
skipped question		39

View Summary

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Page: Opening Question

1. 1. Please select one option from the following list:

		Response Percent	Response Count
I primarily use PPRC and/or P2Rx to find environmental assistance information to apply to my own organization or facility.		37.7%	26
I primarily use PPRC and/or P2Rx in my capacity as a provider of environmental assistance to others outside my organization.		**62.3%**	43
	answered question		69
	skipped question		0

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2. 2. What type of organization do you represent? (Check all that apply.)

		Response Percent	Response Count
Federal government		8.3%	2
State government		8.3%	2
Local government		**33.3%**	8
Manufacturing		16.7%	4
Service industry		12.5%	3
Educational institution		8.3%	2
Nonprofit organization		8.3%	2
Wastewater treatment industry		4.2%	1
view Other (please specify)		12.5%	3
	answered question		24
	skipped question		45

3. 3. How often do you use PPRC and/or P2Rx? (Check only one answer.)

		Response Percent	Response Count
First time user		20.8%	5
Weekly		4.2%	1
Monthly		25.0%	6
Every three months		**50.0%**	12
Other (please specify)		0.0%	0
	answered question		24
	skipped question		45

4. 4. How did you hear about PPRC and/or P2Rx? (Check only one answer.)

	Response Percent	Response Count
Search engine	25.0%	6
Link from another website	4.2%	1
E-mail message or listserv	4.2%	1
Conference or meeting	25.0%	6
Brochure or newsletter	0.0%	0
Colleague	**33.3%**	8
Vendor	0.0%	0
Assistance program	4.2%	1
Other (please specify)	4.2%	1
	answered question	24
	skipped question	45

5. 5. PPRC and/or P2Rx helps me to improve my awareness of environmental practices to reduce pollution. (Check only one answer.)

	Response Percent	Response Count
Strongly Agree	29.2%	7
Agree	**62.5%**	15
Neutral	8.3%	2
Disagree	0.0%	0
Strongly Disagree	0.0%	0
Do Not Use	0.0%	0
	answered question	24
	skipped question	45

Page: Questions for Regulated Community (continued)

6. 6. How useful were PPRC and/or P2Rx resources in meeting your needs? (Please make one selection for each resource listed.)
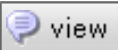
	Very useful	Useful	Somewhat useful	Not useful	Unaware of-Do not use	Response Count
Topic Hubs	22.2% (4)	**61.1% (11)**	5.6% (1)	0.0% (0)	11.1% (2)	18
P2 Programs Directory	16.7% (3)	**38.9% (7)**	5.6% (1)	11.1% (2)	27.8% (5)	18
News	**44.4% (8)**	38.9% (7)	11.1% (2)	0.0% (0)	5.6% (1)	18
Library	11.1% (2)	27.8% (5)	11.1% (2)	5.6% (1)	**44.4% (8)**	18
Industry Sector Information	22.2% (4)	**38.9% (7)**	22.2% (4)	0.0% (0)	16.7% (3)	18
Vendor Database	11.1% (2)	11.1% (2)	11.1% (2)	5.6% (1)	**61.1% (11)**	18
Case Studies	22.2% (4)	27.8% (5)	11.1% (2)	0.0% (0)	**38.9% (7)**	18
Listservs	11.1% (2)	**38.9% (7)**	11.1% (2)	0.0% (0)	**38.9% (7)**	18
Rapid Response	11.1% (2)	11.1% (2)	5.6% (1)	0.0% (0)	**72.2% (13)**	18
P2 Results Data System (Measurement Tool)	11.1% (2)	0.0% (0)	5.6% (1)	0.0% (0)	**83.3% (15)**	18
					answered question	18
					skipped question	51

7. 7. How did you utilize the PPRC and/or P2Rx website(s)? (Check all that apply.)

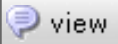|	Response Percent	Response Count
Reviewed Topic Hub information (or other P2Rx website information)	88.9%	16
Attended a training, workshop, or conference promoted by a P2Rx Center	33.3%	6
Asked for pollution prevention technical assistance	5.6%	1
Requested additional resources from a P2Rx Center	5.6%	1
Contacted a technical assistance provider	5.6%	1
Other (please specify)	5.6%	1
answered question		18
skipped question		51

Page: Questions for Regulated Community (continued)

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8. 8. What action(s) have you taken to improve environmental practices, in whole or in part, due to information you have found through PPRC and/or P2Rx? (Check all that apply.)

	Response Percent	Response Count
Changed a pollution prevention process or practice (i.e., implemented pollution prevention)	37.5%	6
Identified a pollution prevention opportunity	68.8%	11
Purchased new process equipment to prevent pollution	0.0%	0
Implemented energy conservation measures	18.8%	3
Switched to renewable energy	6.3%	1
Contacted a vendor	31.3%	5
Implemented material or waste recycling system	12.5%	2
Changed handling of waste or emission	31.3%	5
Installed pollution control equipment (e.g., scrubbers, control technique)	0.0%	0
Installed a waste treatment system	6.3%	1
No process changes were taken	6.3%	1
Other (please specify)	18.8%	3
answered question		16
skipped question		53

9. 9. Please identify whether you reduced or eliminated pollutant(s) as a result of PPRC and/or P2Rx use. (Check all that apply.)

	Response Percent	Response Count
Reduced non-hazardous waste (solid waste)	**37.5%**	6
Eliminated non-hazardous waste (solid waste)	0.0%	0
Reduced hazardous waste or hazardous materials	**37.5%**	6
Eliminated hazardous waste or hazardous materials	6.3%	1
Reduced fugitive air emissions	0.0%	0
Eliminated air emissions	0.0%	0
Reduced waste water pollution	18.8%	3
Eliminated pollutant waste water	0.0%	0
Don't Know	12.5%	2
None	18.8%	3
🗩 view Other (please specify)	12.5%	2
	answered question	16
	skipped question	53

10. 10. Has using PPRC and/or P2Rx or the action(s) taken above resulted in cost savings to you? (Cost includes time as well as dollars.) (Check only one answer.)

	Response Percent	Response Count
Yes	31.3%	5
No	25.0%	4
Do not know	**43.8%**	7
If yes, please provide details.		0
	answered question	16
	skipped question	53

Page: Questions for Assistance Provider Community

11. 2. What type of organization do you represent? (Check all that apply.)

	Response Percent	Response Count
Federal government	12.8%	5
State government	**46.2%**	18
Local government	12.8%	5
Manufacturing	0.0%	0
Service industry	7.7%	3
Educational institution	10.3%	4
Nonprofit organization	2.6%	1
Wastewater treatment industry	2.6%	1
🗩 view Other (please specify)	12.8%	5
	answered question	39
	skipped question	30

12. 3. How often do you use PPRC and/or P2Rx? (Check only one answer.)

	Response Percent	Response Count
First time user	5.1%	2
Weekly	10.3%	4
Monthly	28.2%	11
Every three months	**33.3%**	13
Other (please specify)	23.1%	9
answered question		39
skipped question		30

13. 4. How did you hear about PPRC and/or P2Rx? (Check only one answer.)

	Response Percent	Response Count
Search engine	2.6%	1
Link from another website	5.1%	2
E-mail message or listserv	10.3%	4
Conference or meeting	12.8%	5
Brochure or newsletter	2.6%	1
Colleague	**41.0%**	16
Vendor	0.0%	0
Assistance program	5.1%	2
Other (please specify)	20.5%	8
answered question		39
skipped question		30

14. 5. Access to the PPRC and/or P2Rx information has improved my ability to provide technical assistance to my clients. (Check only one answer.)

	Response Percent	Response Count
Strongly Agree	25.6%	10
Agree	**46.2%**	18
Neutral	20.5%	8
Disagree	0.0%	0
Strongly Disagree	2.6%	1
Do Not Use	5.1%	2
answered question		39
skipped question		30

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15. 6. How useful were PPRC and/or P2Rx resources in meeting your needs? (Please make one selection for each resource listed.)

	Very useful	Useful	Somewhat useful	Not useful	Unaware of-Do not use	Response Count
Topic Hubs	34.4% (11)	34.4% (11)	9.4% (3)	0.0% (0)	21.9% (7)	32

P2 Programs Directory	3.1% (1)	**37.5% (12)**	28.1% (9)	0.0% (0)	31.3% (10)	32
News	**40.6% (13)**	31.3% (10)	18.8% (6)	0.0% (0)	9.4% (3)	32
Library	9.4% (3)	15.6% (5)	25.0% (8)	9.4% (3)	**40.6% (13)**	32
Industry Sector Information	25.0% (8)	25.0% (8)	18.8% (6)	0.0% (0)	**31.3% (10)**	32
Vendor Database	0.0% (0)	12.5% (4)	34.4% (11)	6.3% (2)	**46.9% (15)**	32
Case Studies	**28.1% (9)**	21.9% (7)	21.9% (7)	0.0% (0)	**28.1% (9)**	32
Listservs	12.5% (4)	18.8% (6)	9.4% (3)	6.3% (2)	**53.1% (17)**	32
Rapid Response	12.5% (4)	6.3% (2)	9.4% (3)	6.3% (2)	**65.6% (21)**	32
P2 Results Data System (Measurement Tool)	6.3% (2)	15.6% (5)	21.9% (7)	9.4% (3)	**46.9% (15)**	32
					answered question	32
					skipped question	37

16. 7. What information did you use to improve or influence your clients' understanding of environmental practices to reduce pollution? (Check all that apply.)

	Response Percent	Response Count
Provided training, workshop, and/or conference information	40.6%	13
Provided information on technical assistance providers	**50.0%**	16
Provided Topic Hub information	31.3%	10
Provided vendor information	3.1%	1
Other pollution prevention technical assistance. If so, please specify.	25.0%	8
answered question		32
skipped question		37

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17. 8. What action(s) have your clients taken to improve environmental practices, in whole or in part, due to information you have found through PPRC and/or P2Rx? (Check all that apply.)

	Response Percent	Response Count
Changed a pollution prevention process or practice (i.e., implemented pollution prevention)	32.1%	9
Identified a pollution prevention opportunity	**50.0%**	14
Purchased new process equipment to prevent pollution	14.3%	4
Implemented energy conservation measures	14.3%	4
Switched to renewable energy	0.0%	0
Contacted a vendor	25.0%	7
Implemented material or waste recycling system	25.0%	7
Changed handling of waste or emission	17.9%	5

Installed pollution control equipment (e.g., scrubbers, control technique)		0.0%	0
Installed a waste treatment system		3.6%	1
No process changes were taken		3.6%	1
(view) Other (please specify)		28.6%	8
		answered question	**28**
		skipped question	**41**

18. 9. Please identify whether your client(s) reduced or eliminated pollutant(s) as a result of PPRC and/or P2Rx use. (Check all that apply.)

		Response Percent	Response Count
Reduced non-hazardous waste (solid waste)		17.9%	5
Eliminated non-hazardous waste (solid waste)		0.0%	0
Reduced hazardous waste or hazardous materials		25.0%	7
Eliminated hazardous waste or hazardous materials		10.7%	3
Reduced fugitive air emissions		10.7%	3
Eliminated air emissions		0.0%	0
Reduced waste water pollution		10.7%	3
Eliminated pollutant waste water		3.6%	1
Don't Know		**60.7%**	17
None		0.0%	0
(view) Other (please specify)		7.1%	2
		answered question	**28**
		skipped question	**41**

19. 10. Has using PPRC and/or P2Rx or the action(s) taken above resulted in cost savings to your client? (Cost includes time as well as dollars.) (Check only one answer.)

		Response Percent	Response Count
Yes		25.0%	7
No		0.0%	0
Do not know		**75.0%**	21
If yes, please provide details.		*(view)*	3
		answered question	**28**
		skipped question	**41**

20. 11. Has using PPRC and/or P2Rx saved you time or money in serving your client(s)? (Check only one answer.)

		Response Percent	Response Count
Yes		**67.9%**	19
No		3.6%	1

Do not know		28.6%	8
If yes, please provide details.	view		11
	answered question		**28**
	skipped question		**41**

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1. 1. Please select one option from the following list:

		Response Percent	Response Count
I primarily use P2Rx to find environmental assistance information to apply to my own organization or facility.		**60.0%**	6
I primarily use P2Rx in my capacity as a provider of environmental assistance to others outside my organization.		40.0%	4
	answered question		**10**
	skipped question		**0**

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2. 2. What type of organization do you represent? (Check all that apply.)

		Response Percent	Response Count
Federal government		0.0%	0
State government		0.0%	0
Local government		**33.3%**	1
Manufacturing		0.0%	0
Service industry		0.0%	0
Educational institution		0.0%	0
Nonprofit organization		**33.3%**	1
Wastewater treatment industry		0.0%	0
view **Other (please specify)**		**33.3%**	1
	answered question		**3**
	skipped question		**7**

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3. 3. How often do you use P2Rx? (Check only one answer.)

		Response Percent	Response Count
First time user		**66.7%**	2
Weekly		0.0%	0
Monthly		0.0%	0
Every three months		0.0%	0
view Other (please specify)		33.3%	1
	answered question		**3**

		skipped question	7

4. 4. How did you hear about P2Rx? (Check only one answer.)

		Response Percent	Response Count
Search engine		0.0%	0
Link from another website		**33.3%**	1
E-mail message or listserv		**33.3%**	1
Conference or meeting		0.0%	0
Brochure or newsletter		0.0%	0
Colleague		0.0%	0
Vendor		0.0%	0
Assistance program		0.0%	0
view **Other (please specify)**		**33.3%**	1
	answered question		3
	skipped question		7

5. 5. P2Rx helps me to improve my awareness of environmental practices to reduce pollution. (Check only one answer.)

		Response Percent	Response Count
Strongly Agree		33.3%	1
Agree		**66.7%**	2
Neutral		0.0%	0
Disagree		0.0%	0
Strongly Disagree		0.0%	0
Do Not Use		0.0%	0
	answered question		3
	skipped question		7

Page: Questions for Regulated Community (continued)

6. 6. How useful were P2Rx resources in meeting your needs? (Please make one selection for each resource listed.)

	Very useful	Useful	Somewhat useful	Not useful	Unaware of-Do not use	Response Count
Topic Hubs	**33.3% (1)**	**33.3% (1)**	0.0% (0)	0.0% (0)	**33.3% (1)**	3
P2 Programs Directory	**33.3% (1)**	**33.3% (1)**	0.0% (0)	0.0% (0)	**33.3% (1)**	3
News	**33.3% (1)**	**33.3% (1)**	0.0% (0)	0.0% (0)	**33.3% (1)**	3
Library	**33.3% (1)**	**33.3% (1)**	0.0% (0)	0.0% (0)	**33.3% (1)**	3
Industry Sector Information	0.0% (0)	**100.0% (3)**	0.0% (0)	0.0% (0)	0.0% (0)	3
Vendor Database	0.0% (0)	**33.3% (1)**	**33.3% (1)**	0.0% (0)	**33.3% (1)**	3
Case Studies	**33.3% (1)**	0.0% (0)	**33.3% (1)**	0.0% (0)	**33.3% (1)**	3
Listservs	**33.3% (1)**	0.0% (0)	**33.3% (1)**	0.0% (0)	**33.3% (1)**	3
Rapid Response	0.0% (0)	0.0% (0)	33.3% (1)	0.0% (0)	**66.7% (2)**	3
P2 Results Data System (Measurement Tool)	**33.3% (1)**	0.0% (0)	**33.3% (1)**	0.0% (0)	**33.3% (1)**	3
	answered question					3
	skipped question					7

7. 7. How did you utilize the P2Rx website(s)? (Check all that apply.)

	Response Percent	Response Count
Reviewed Topic Hub information (or other P2Rx website information)	**66.7%**	2
Attended a training, workshop, or conference promoted by a P2Rx Center	33.3%	1
Asked for pollution prevention technical assistance	33.3%	1
Requested additional resources from a P2Rx Center	0.0%	0
Contacted a technical assistance provider	0.0%	0
Other (please specify)	0.0%	0
answered question		3
skipped question		7

Page: Questions for Regulated Community (continued)

8. 8. What action(s) have you taken to improve environmental practices, in whole or in part, due to information you have found through P2Rx? (Check all that apply.)

	Response Percent	Response Count
Changed a pollution prevention process or practice (i.e., implemented pollution prevention)	**66.7%**	2
Identified a pollution prevention opportunity	**66.7%**	2
Purchased new process equipment to prevent pollution	0.0%	0
Implemented energy conservation measures	0.0%	0
Switched to renewable energy	0.0%	0
Contacted a vendor	33.3%	1
Implemented material or waste recycling system	**66.7%**	2
Changed handling of waste or emission	33.3%	1
Installed pollution control equipment (e.g., scrubbers, control technique)	0.0%	0
Installed a waste treatment system	0.0%	0
No process changes were taken	0.0%	0
Other (please specify)	33.3%	1
answered question		3
skipped question		7

9. 9. Please identify whether you reduced or eliminated pollutant(s) as a result of P2Rx use. (Check all that apply.)

	Response Percent	Response Count
Reduced non-hazardous waste (solid waste)	**66.7%**	2
Eliminated non-hazardous waste (solid waste)	0.0%	0
Reduced hazardous waste or hazardous materials	33.3%	1
Eliminated hazardous waste or hazardous materials	33.3%	1
Reduced fugitive air emissions	0.0%	0
Eliminated air emissions	0.0%	0
Reduced waste water pollution	33.3%	1
Eliminated pollutant waste water	0.0%	0
Don't Know	0.0%	0
None	0.0%	0
Other (please specify)	33.3%	1
answered question		3
skipped question		7

10. 10. Has using P2Rx or the action(s) taken above resulted in cost savings to you? (Cost includes time as well as dollars.) (Check only one answer.)

	Response Percent	Response Count
Yes	0.0%	0
No	33.3%	1
Do not know	**66.7%**	2
If yes, please provide details.		0
answered question		3
skipped question		7

Page: Questions for Assistance Provider Community

11. 2. What type of organization do you represent? (Check all that apply.)

	Response Percent	Response Count
Federal government	0.0%	0
State government	**75.0%**	3
Local government	0.0%	0
Manufacturing	0.0%	0
Service industry	0.0%	0
Educational institution	25.0%	1
Nonprofit organization	25.0%	1
Wastewater treatment industry	0.0%	0
Other (please specify)	0.0%	0
answered question		4
skipped question		6

12. 3. How often do you use P2Rx? (Check only one answer.)

	Response Percent	Response Count

First time user	25.0%	1
Weekly	**75.0%**	**3**
Monthly	0.0%	0
Every three months	0.0%	0
Other (please specify)	0.0%	0
answered question		**4**
skipped question		**6**

13. 4. How did you hear about P2Rx? (Check only one answer.)

	Response Percent	Response Count
Search engine	0.0%	0
Link from another website	25.0%	1
E-mail message or listserv	0.0%	0
Conference or meeting	0.0%	0
Brochure or newsletter	0.0%	0
Colleague	**50.0%**	**2**
Vendor	0.0%	0
Assistance program	25.0%	1
Other (please specify)	0.0%	0
answered question		**4**
skipped question		**6**

14. 5. Access to the P2Rx information has improved my ability to provide technical assistance to my clients. (Check only one answer.)

	Response Percent	Response Count
Strongly Agree	**50.0%**	**2**
Agree	25.0%	1
Neutral	25.0%	1
Disagree	0.0%	0
Strongly Disagree	0.0%	0
Do Not Use	0.0%	0
answered question		**4**
skipped question		**6**

Page: Questions for Assistance Provider Community (continued)

15. 6. How useful were P2Rx resources in meeting your needs? (Please make one selection for each resource listed.)

	Very useful	Useful	Somewhat useful	Not useful	Unaware of-Do not use	Response Count
Topic Hubs	**100.0% (3)**	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	3
P2 Programs Directory	**33.3% (1)**	**33.3% (1)**	**33.3% (1)**	0.0% (0)	0.0% (0)	3
News	**33.3% (1)**	**33.3% (1)**	**33.3% (1)**	0.0% (0)	0.0% (0)	3
Library	33.3% (1)	**66.7% (2)**	0.0% (0)	0.0% (0)	0.0% (0)	3
Industry Sector Information	**100.0% (3)**	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	3
Vendor Database	33.3% (1)	0.0% (0)	**66.7% (2)**	0.0% (0)	0.0% (0)	3
Case Studies	33.3% (1)	**66.7% (2)**	0.0% (0)	0.0% (0)	0.0% (0)	3
Listservs	**33.3% (1)**	**33.3% (1)**	**33.3% (1)**	0.0% (0)	0.0% (0)	3
Rapid Response	**33.3% (1)**	0.0% (0)	**33.3% (1)**	**33.3% (1)**	0.0% (0)	3

P2 Results Data System (Measurement Tool)	**66.7% (2)**	33.3% (1)	0.0% (0)	0.0% (0)	0.0% (0)	3
					answered question	3
					skipped question	7

16. 7. What information did you use to improve or influence your clients' understanding of environmental practices to reduce pollution? (Check all that apply.)

		Response Percent	Response Count
Provided training, workshop, and/or conference information		**100.0%**	3
Provided information on technical assistance providers		33.3%	1
Provided Topic Hub information		**100.0%**	3
Provided vendor information		66.7%	2
[view] Other pollution prevention technical assistance. If so, please specify.		33.3%	1
		answered question	3
		skipped question	7

Page: Questions for Assistance Provider Community (continued)

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17. 8. What action(s) have your clients taken to improve environmental practices, in whole or in part, due to information you have found through P2Rx? (Check all that apply.)

		Response Percent	Response Count
Changed a pollution prevention process or practice (i.e., implemented pollution prevention)		**100.0%**	2
Identified a pollution prevention opportunity		**100.0%**	2
Purchased new process equipment to prevent pollution		0.0%	0
Implemented energy conservation measures		0.0%	0
Switched to renewable energy		0.0%	0
Contacted a vendor		0.0%	0
Implemented material or waste recycling system		**100.0%**	2
Changed handling of waste or emission		**100.0%**	2
Installed pollution control equipment (e.g., scrubbers, control technique)		0.0%	0
Installed a waste treatment system		0.0%	0
No process changes were taken		0.0%	0
[view] Other (please specify)		50.0%	1
		answered question	2
		skipped question	8

18. 9. Please identify whether your client(s) reduced or eliminated pollutant(s) as a result of P2Rx use. (Check all that apply.)

		Response Percent	Response Count
Reduced non-hazardous waste (solid waste)		**100.0%**	2
Eliminated non-hazardous waste (solid waste)		0.0%	0
Reduced hazardous waste or hazardous materials		**100.0%**	2
Eliminated hazardous waste or hazardous materials		0.0%	0
Reduced fugitive air emissions		**100.0%**	2
Eliminated air emissions		0.0%	0
Reduced waste water pollution		0.0%	0
Eliminated pollutant waste water		50.0%	1
Don't Know		0.0%	0
None		0.0%	0
Other (please specify)		0.0%	0
	answered question		**2**
	skipped question		**8**

19. 10. Has using P2Rx or the action(s) taken above resulted in cost savings to your client? (Cost includes time as well as dollars.) (Check only one answer.)

	Response Percent	Response Count
Yes	**100.0%**	2
No	0.0%	0
Do not know	0.0%	0
If yes, please provide details.	view	1
answered question		**2**
skipped question		**8**

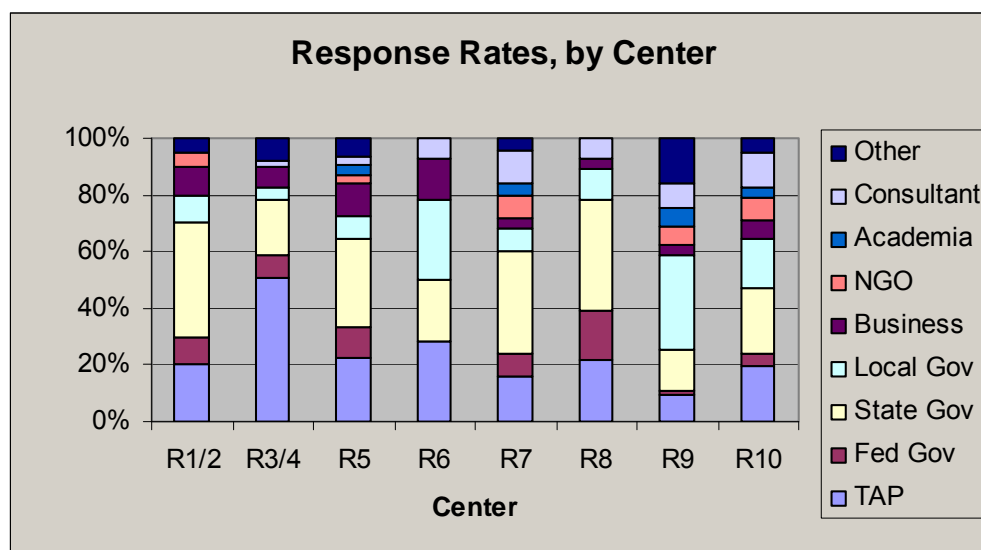## 20. 11. Has using P2Rx saved you time or money in serving your client(s)? (Check only one answer.)

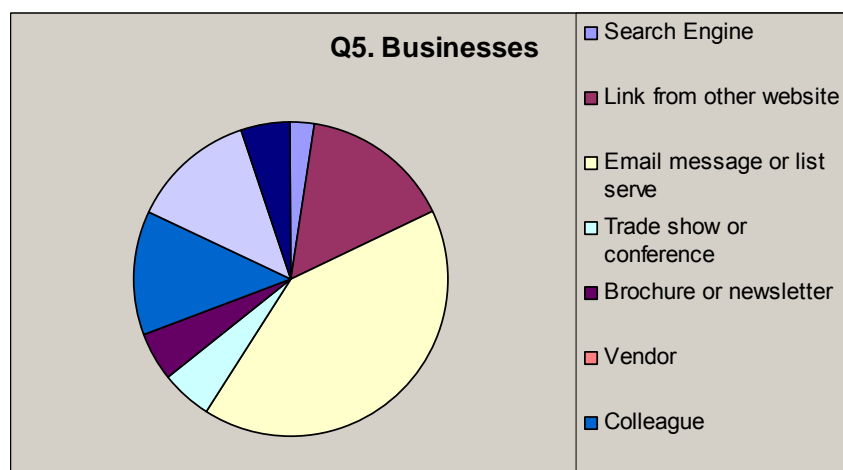|	Response Percent	Response Count
Yes	**100.0%**	2
No	0.0%	0
Do not know	0.0%	0
If yes, please provide details.	view	1
answered question		**2**
skipped question		**8**

Appendix E – 2004 Customer Satisfaction Survey Analysis

The 2004 Customer Satisfaction Survey was analyzed in 2004 by Weinreich Communications. However, certain questions were not split into distinct business and TAP audiences at that time. Abt Associates analyzed these questions using Weinreich Communications' methodology for dividing the audiences for purposes of consistency; thus, respondents are separated into two categories: those who identified themselves as "Business/Industry," and all other respondents. "All other respondents" are noted in the following graphs as "TAPs," however it is not certain based on the survey questions whether other respondents were functioning as assistance providers. For certain questions, raw data provided to Abt Associates by Weinreich Communications was also broken down by center.

Question 2: Please choose the category that best describes you: (select one)

Question 5: How did you find out about P2Rx/Regional Center? (check all that apply)

Q5. Businesses

Legend: Search Engine; Link from other website; Email message or list serve; Trade show or conference; Brochure or newsletter; Vendor; Colleague; Government assistance provider; Other

Q5. Non-Business

Legend: Search engine; Link from other website; Email message or list serve; Brochure or newsletter; Colleague; Other

Q5. Non-Business

Legend: Search engine; Link from other website; Email message or listserve; Brochure or newsletter; Colleague; Other

Question 7: *How often do you use the materials or information you receive from P2Rx/Regional Center for the following actions?*

e. Assist my own organization in its pollution prevention activities

Q7e. Businesses, by center

Q7e. Businesses, all centers

Q7e. Non-Business, by center

Q7e. Non-Business, all centers
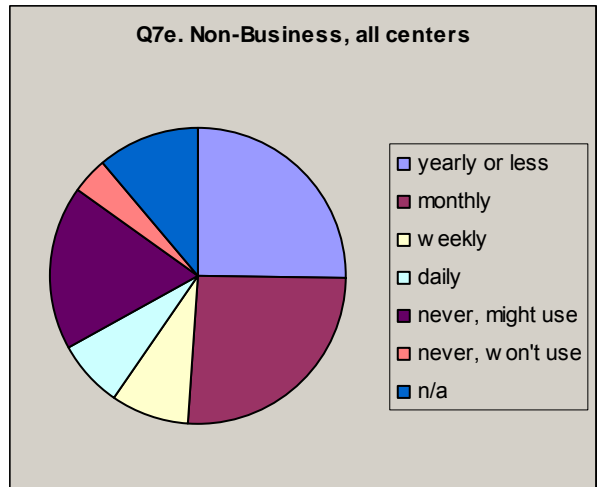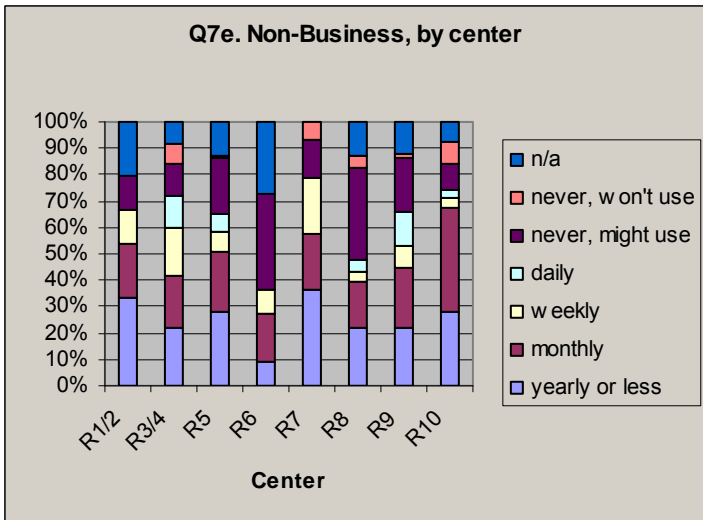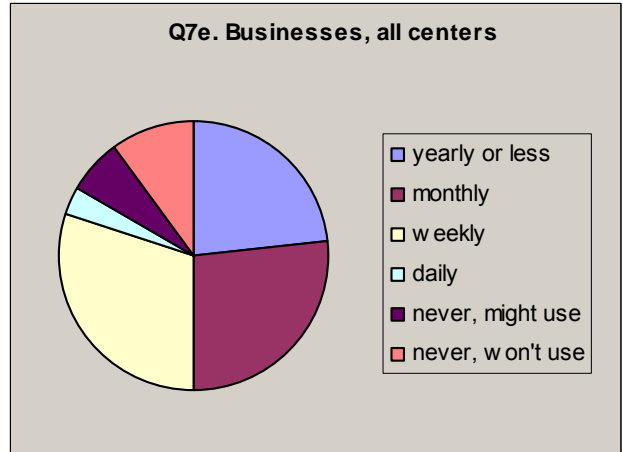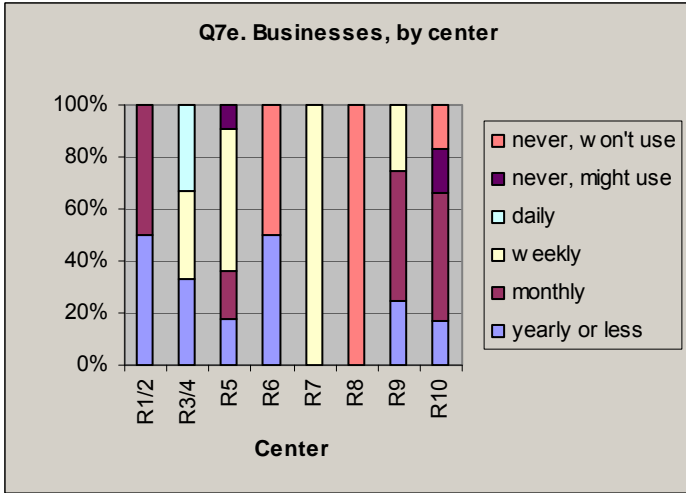
j. Assist a client with reducing or preventing pollution (nonbusiness only)

Q7j. Non-Business, by center

Q7j. Non-Business, all centers

Evaluating the Effectiveness of the EPA PPIN Grant Program 165
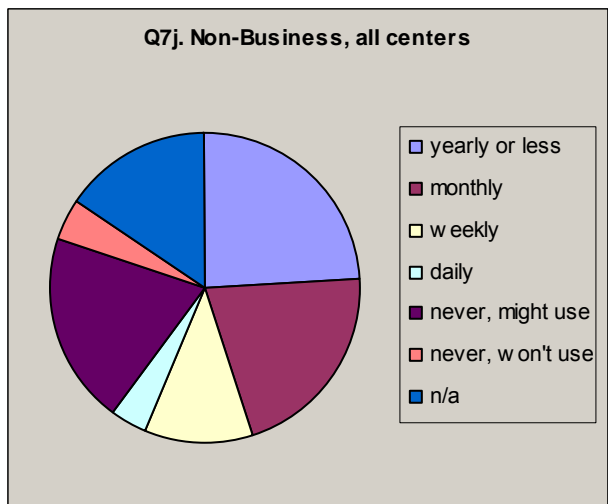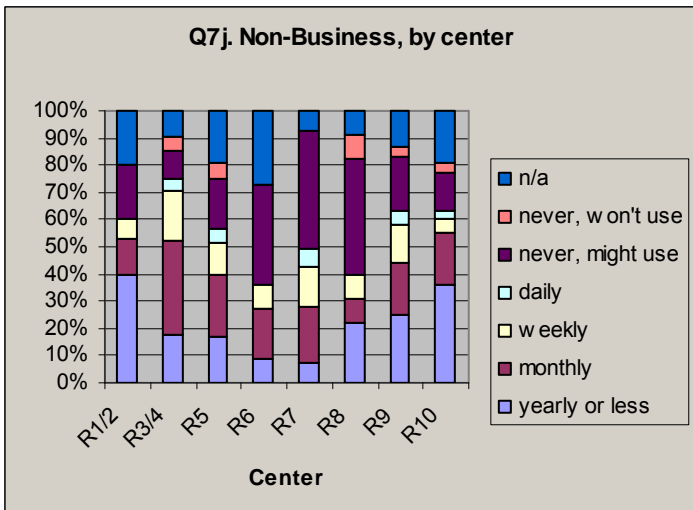
k. Achieve (/help a client achieve) compliance through reduction of pollution generation

Q7k. Business, by center

Q7k. Business, all centers

Q7k. Non-Business, by center

Q7k. Non-Business, all centers
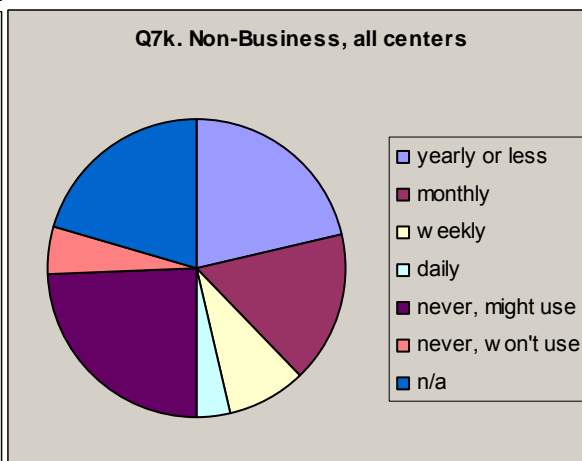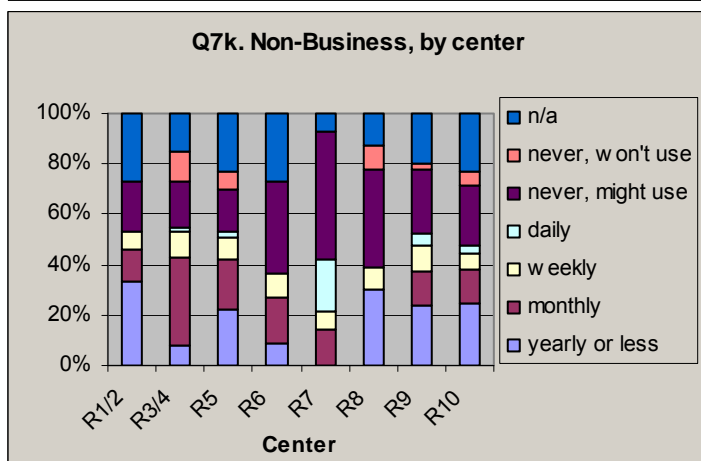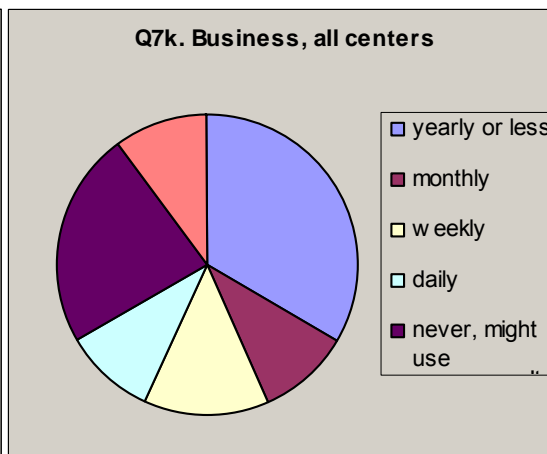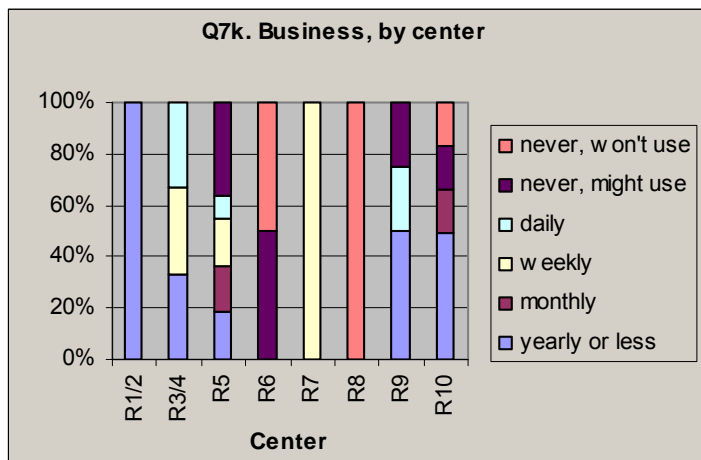
Question 9: How useful are our resources for your needs?

Q9. Businesses

Legend:
- N/A
- Not useful
- Somewhat useful
- Useful
- Very useful

Categories: Topic Hubs, P2 Programs Directory, News, Homes Across America, Hg Programs Directory, RFP Database, Library

Q9. Non-Business

Legend:
- N/A
- Not useful
- Somewhat useful
- Useful
- Very useful

Categories: Topic Hubs, P2 Programs Directory, News, Homes Across America, Hg Programs Directory, RFP Database, Library

Question 11: *How useful are our services for your needs?*

Q11. Businesses

Legend: N/A, Not useful, Somewhat useful, Useful, Very useful

Categories: Listservs, Regional Roundtables, Rapid Response

Q11. Non-Business

Legend: N/A, Not useful, Somewhat useful, Useful, Very useful

Categories: Listserves, Regional Roundtables, Rapid Response
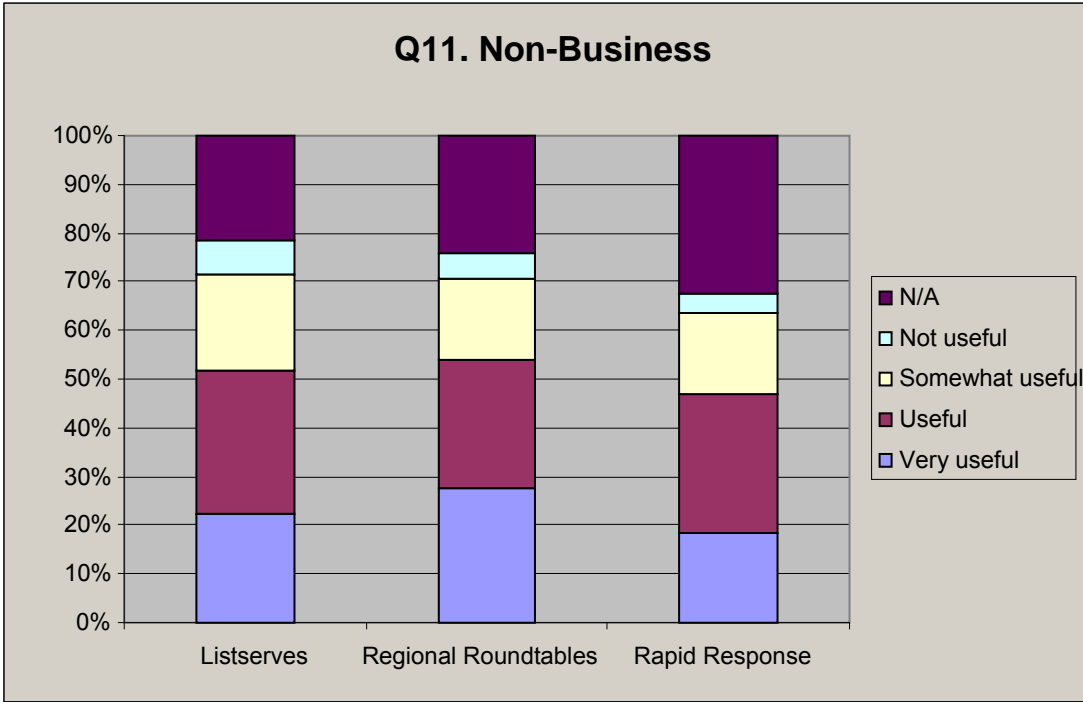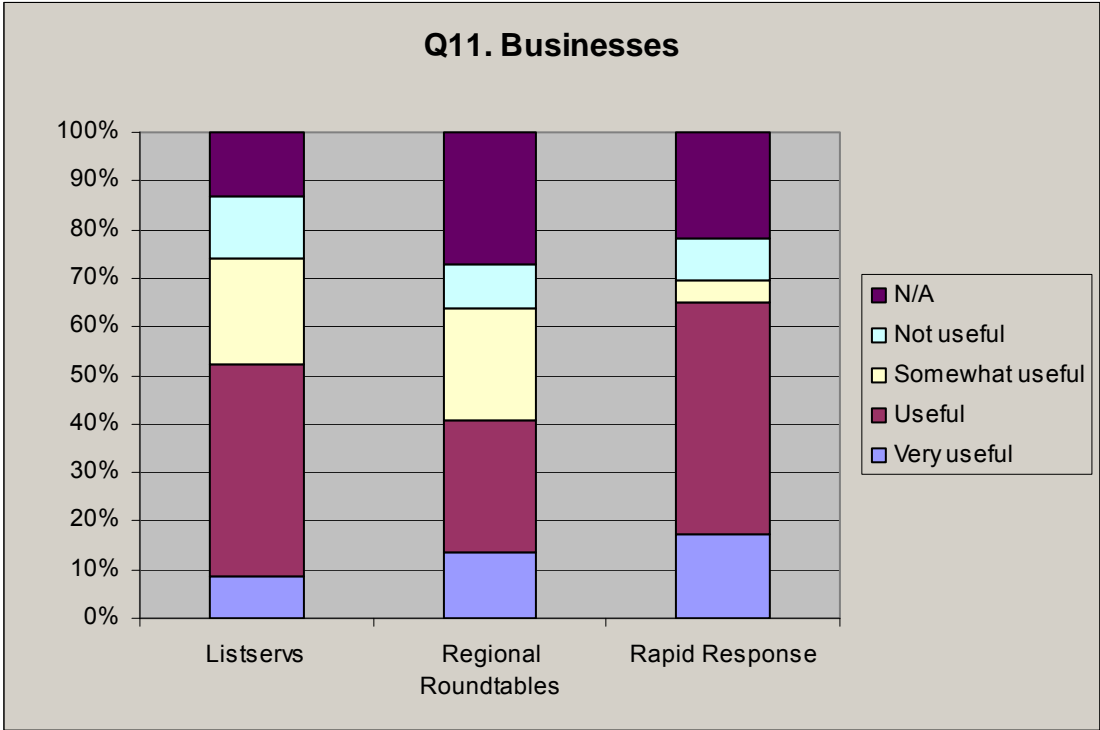
Question 12: *How useful to you are the following types of P2 information?*

Q12. Businesses

Q12. Non-Business
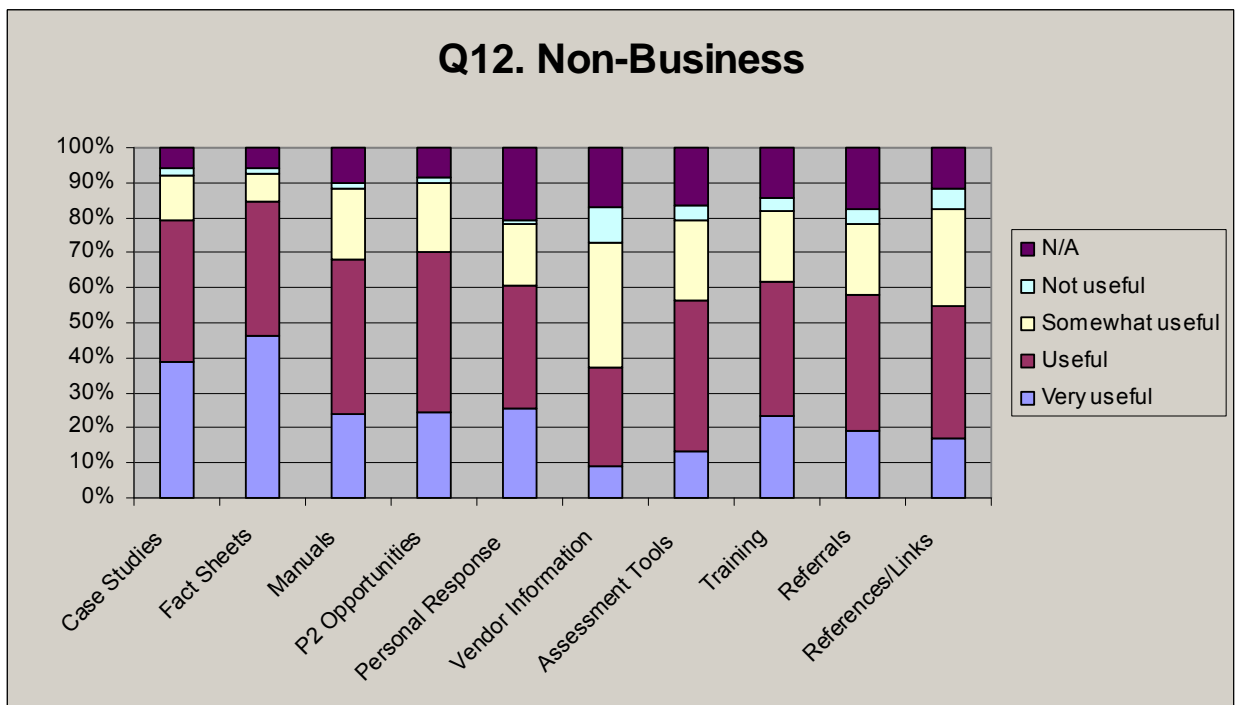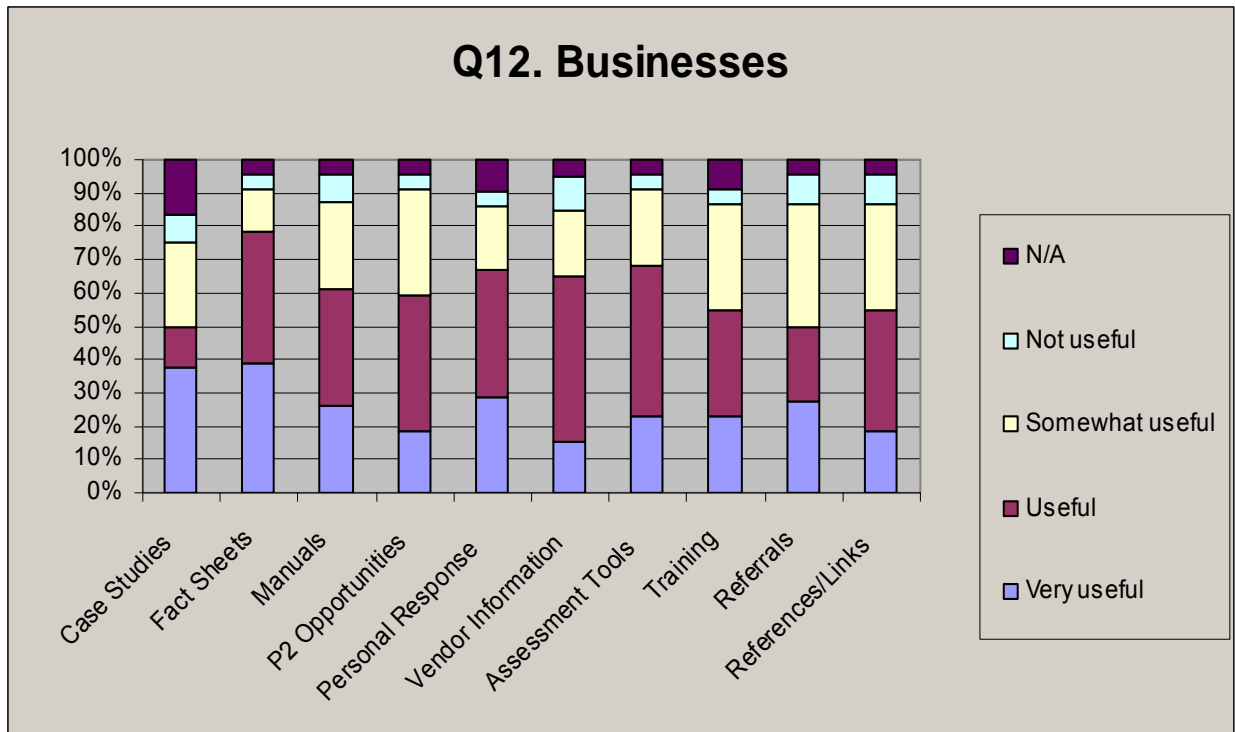
Appendix F – Interview Guide

Introduction
Good morning. I am _____ (introduce self). I work for Abt Associates, a research consulting firm in Cambridge, MA. We are working with the U.S. Environmental Protection Agency to conduct an evaluation of the Pollution Prevention Resource Exchange, or P2Rx. We're conducting interviews with P2Rx Center Directors, Technical Assistance Providers, and Business Representatives to get their input for our evaluation.

This interview is being conducted to get your input about the [Pollution Prevention Resource Exchange/specific center name]. All of your comments will remain confidential. We will be compiling a report that will contain a synthesis of all comments without any reference to individuals.

Questions for P2Rx Center Directors
[Send logic model(s) out ahead of time, ask them to review and have ready]

I. Questions about the Logic Model (evaluation questions 1, 1a)
   Did you receive the logic models we sent you via e-mail? We sent the original one you/your staff developed and sent to EPA, plus a generic one that should roughly describe all of the centers. However, we know that the centers differ from one another in how they promote P2. Part of our evaluation is to identify the similarities and differences so we can group the centers together based on their common modes of information dissemination and other characteristics. As we go along with our questions, feel free to point out connections to other centers you may be aware of.

   A. Resources:
   Can you identify from the list of the resources in the generic logic model, the ones your center primarily uses and the partners you primarily work with?

   Which resources listed, if any, does your center not utilize?

   Are there any resources your center uses that are not listed?

   B. Activities:
   Can you identify from the list of activities in the generic logic model, the ones that your center spends the most resources on?

   What do you consider your most important activities in terms of fulfilling your mission?

   Which activities do you do, but are not a major focus?

   Which activities listed, if any, does your center not do at all?

   Are there any activities your center is involved in that are not listed?

   C. Outputs:

Can you identify from the list of outputs in the generic logic model, the ones that your center spends the most resources on?

Which outputs do you produce, but are not a major focus?

Which outputs, if any, does your center not produce at all?

Are there any outputs your center produces that are not listed?

D. Customers:
Can you identify your primary customers on the list in the logic model?

Why, or in what way, do you consider them primary customers?

To what extent do you focus your efforts on providing information to TAPs as opposed to businesses directly?

Who would you consider your secondary customer(s) on the list provided?

Are there any customers listed with whom your center does not work?

Do you work with any customers that are not listed?

II. What do you consider particularly effective or efficient strategies in how you operate?

    A. What do you consider particularly ineffective or inefficient?

III. Are there ways in which things can be shared among centers to make you more efficient in delivering information?

    A. For which tasks, if any, would this work well? (evaluation question 1c/1d)

OK, now moving away from the logic models…
IV. What do you do to reach businesses through TAPs? (evaluation question 6, 6a)

    A. Why do you use this approach?

    B. Is it effective at ultimately reaching businesses?

    C. (*Whether answer is "yes" or "no" ask*) How do you know?

V. What do you do to reach businesses directly? (evaluation question 7, 7a)

    A. How does this differ from how you reach them through TAPs?

    B. Why do you use this approach?

    C. Do you know if it is effective? How do you know?

VI. How do you determine the needs of your users?

VII. What kind of outcomes could your center potentially affect…
(outcomes are changes in conditions on the part of your audience (e.g., increased knowledge, made changes in behavior), or changes in environmental and human health.

    A. for TAPs?

    B. Through TAPs for businesses?

    C. for business directly?

    D. How do you know?

    (evaluation question 6b, 7b)

VIII. Do you think your center has had an effect on any of these outcomes?

    A. If so, how do you know?

IX. What do you know about the effect your center has had on the implementation of P2 by business? (*Zero Waste – probe for case studies*) (evaluation question 5)

    A. Do you collect information to help you answer this question?

    B. If so, what type, how, and how frequently?

X. What information would be useful to collect to measure the influence of your center's activity on the implementation of P2? (evaluation question 8)

    A. What would be your recommendations for meaningful performance measurement information?

    B. Can you explain the advantages of that approach?

XI. What ability does your center currently have to gather outcome measurements?

[e.g., Expertise, data systems, infrastructure]
A. Is it sufficient? If not, in what ways?

XII. How could you build your capacity to improve collection of desired outcome or performance measurements/information? (evaluation question 8a)

    A. What kinds of information are you missing?

    B. What do you need in order to collect it?

XIII. What ideas or recommendations do you have for how such information can best be collected based on available technology/databases, funds, and survey approval requirements? (evaluation question 8b)

For TAPs and industry:
I'd like to start by having you briefly describe your interaction with the [P2Rx center]. (Note to interviewer: You may need to probe to gather information on the extent of their interaction, frequency, etc.).

Questions for Technical Assistance Providers
[Replace "P2Rx" with the name of the specific center.]

I. What do you need from P2RX centers to promote *businesses*' adoption of pollution prevention practices? (evaluation question 4)

        A. In what way(s) will that help you do your job?

II. In your view, are the P2Rx centers providing the right products, services, and content to *you* to promote the adoption of P2 practices by *businesses*? (evaluation question 4, 4a)

        A. In what way(s) are they/are they not right?

        B. How do you know?

III. What additional products, services, and content do you think *businesses* need in order to consider the adoption of P2 practices? (evaluation question 3)

        A. Why?

        B. How do you know?

IV. Based on your knowledge <u>or</u> your opinion (specify which), what effect has P2Rx had on the implementation of P2 by business? (evaluation question 5)

        A. How do you know <u>or</u> why do you think this?

V. What type of outcomes do you think can be attributed to the following information received from P2Rx centers?
A. Information received by TAPs.

B. Information received by businesses through TAPs?

C. Information received by business directly?

D. Why do you think these outcomes can be attributed all or in part to information from P2RX centers, as opposed to other influences or causes? What other sources could these outcomes have?
(evaluation question 6b, 7b)

Questions for Business Representatives

I. Please describe what type of business you are in.

II. What information and services do you need to make decisions about whether to adopt pollution prevention (P2) practices? By P2 we mean specifically waste reduction activities, or what you might think of as sustainable production or source reduction. We're not talking about environmental improvements in general. (evaluation question 3)

> *[hold prompts]:*
> *For example, topic-specific information, sector-specific information, news items, vendor information, case studies/success stories, analytical tools, on-site visits, personalized on-line research assistance, networking, or paper such as fact sheets, checklists, guidance manuals or handbooks, articles or reports.*

> A. Why is this helpful to you?

> B. How do you prefer receiving this information and services?

> *[hold prompts]:*
> *For example, websites, phone assistance, live training, webinars, passive internet resources, direct mail, teleconferencing, listserves*

> C. Why is this your preference?

III. In your view, are the P2Rx centers providing, either directly or indirectly, the right products, services, and content to help you implement P2? (evaluation question 3a)

> A. Are you referring to direct or indirect services?

> B. In what way(s) are they/are they not right?

> C. What do you need from the center to help you implement P2?

IV. In your view, are the TAPs providing the right products, services, and content to help you implement P2? (evaluation question 4, 4a)

> A. In what way(s) are they/are they not right?

> B. If not, what products, services or content do they need to provide in order to help you implement P2?

V. Have you used the information provided by a P2Rx center to implement P2 practices? (evaluation question 5)

> A. If yes, what information did you use?

> B. Can you give some examples of instances in which you were able to use information to implement changes?

> C. Were there documented changes in outcomes? What types?

VI. What leads you to seek information about P2? (evaluation question 5a)

VII. How successful do you think the P2Rx centers have been at reaching you and your peers in business and industry?   Use a scale of 1 to 5, with 5 being extremely successful, 1 being not at all successful. (evaluation question 7)

        A. How do you gauge that success?

        B. What means did they use to reach you?

Appendix G – Focus Group Moderator's Guide

2007 Western U.S. Pollution Prevention Conference
Moderators' Guide
October 23-25, 2007

Focus Group with Business

Hello and welcome to our discussion group. Thanks so much for taking the time to join us. My name is Jocelyn Siegel, and this is my colleague Lissa Lynch. We work for Abt Associates, a research consulting firm in Cambridge MA. We are working with the U.S. Environmental Protection Agency to conduct an evaluation of the Pollution Prevention Resource Exchange, or P2Rx. We're conducting focus groups with the regulated community to learn your perspectives about P2Rx.

P2Rx is a consortium of eight regional pollution prevention information centers, funded in part through grants from EPA. These centers all provide pollution prevention information, networking opportunities and other services.
The centers you might be familiar with are:
- Western Regional Pollution Prevention Network (WRPPN)
- Ed Gonzalez
  or
- Pacific Northwest Pollution Prevention Resource Center (PPRC)
- Chris Wiley

The overall goal of this focus group is to gather information about P2Rx to aid in our evaluation of the program's effectiveness in reaching the regulated community (P2Rx's end users) with the information and mechanisms provided. This evaluation is not intended as a critique of centers' achievements or comparison of achievements across centers.

Please write your first name on the table tents. This is just to facilitate the session; your name will not be used when reporting what we learn in focus groups. For those of you unfamiliar with focus groups, a focus group is a planned discussion designed to get opinions and hear experiences about a specific area of interest, in this case the P2Rx centers. The purpose of a focus group is to hear views, not to get "answers."

Before we begin, I'd like to go over some ground rules. First, it's very important to respect one another both in terms of letting everyone voice their opinions if they wish, and by not sharing what you hear today with anyone outside the group. We will keep your comments confidential and will not use your names in any reports. These rules aim to help make the focus group an environment where people can be open and honest, which will provide the study team with the most accurate picture of P2Rx.

Our conversation will last about an hour and a half, but if at any time you want to leave, please feel free to do so. If any part of the conversation makes you uncomfortable, we would very much appreciate you letting us know. You can do so either by telling me or Lissa after the session ends.

We would like to tape record the sessions to be sure our notes are accurate. Does anyone have any objections?

Before we start our discussion, does anyone have any questions?

OK, let's begin.

1. What type of businesses are people in, and what is your role? (*go around room*)

Questions about direct contact with P2Rx centers:

2. How many of you have had contact with a P2Rx center?
    a. If so, can you describe briefly what the circumstances of the contact you had/have.
        (*go around room*)
    b. What kinds of information have you received from a P2Rx Center?

3. Have you used the information provided by a P2Rx Center to implement pollution prevention, or P2 practices? By P2 we mean specifically waste reduction activities, what you might think of as sustainable production or source reduction. We're not talking about environmental improvements in general.
        If so, please elaborate.
        c. If so, is information about this implementation publicly available?

Questions about contact with TAPs:

4. How many of you have had contact with a state or local Technical Assistance Providers, or TAPs?
    (You may be familiar with TAPs as local or regional programs that provide businesses with environmental management assistance and help identify and implement P2 measures through such things as voluntary onsite audits, planning assistance, training or other services.)
        d. If so, can you describe briefly what the circumstances of the contact you had/have, and how often you interact with them?
            (*go around room*)
        e. If you've interacted with TAPs, have they mentioned the P2Rx center to you?
        f. Specifically what kinds of information have you received from a TAP?

5. Have you used the information provided by a TAP or center to implement P2 practices? Please elaborate.
        g. If so, is information about this implementation publicly available?

6. Are there suggestions you would make, or recommendations about getting P2Rx information directly to you more effectively?

General questions:

7. When you do need pollution prevention information, where do you typically look? Why? What type of information or assistance are you trying to find?

8. What information and services do you need to make a decision or consider adopting a P2 practice?

> *[hold prompts]:*
> h. *What do you need?*
> *Topic-specific information, sector-specific information, news items, vendor information, case studies/success stories, analytical tools, on-site visits, personalized on-line research assistance, networking, or paper such as fact sheets, checklists, guidance manuals or handbooks, articles or reports.*
> i. *How do you want to get it?*
> *Websites, phone assistance, live training, webinars, passive internet resources, direct mail, teleconferencing, listserves.*

This is our final question:

9. We've conducted this meeting to help us evaluate the effectiveness of P2Rx. In addition to finding out how well P2Rx and its centers are working, we want to learn how to improve the program for the future. Is there anything we've missed? Is there anything you came to this meeting wishing to say that you haven't had a chance to say?

Thank you for participating in this focus group. Your comments and viewpoints are extremely valuable, and we appreciate you taking the time to share them with us. We'll be around for a few minutes if you have any questions about the study, and feel free to contact Beth Anderson at EPA Headquarters with any questions in the future. The report is due to be completed next summer and you can see a copy by contacting Beth Anderson.

2007 Western U.S. Pollution Prevention Conference
Moderators' Guide
October 23-25, 2007

Focus Group with Technical Assistance Providers

Introduction:
Hello and welcome to our discussion group. Thanks so much for taking the time to join us. My name is Jocelyn Siegel, and this is my colleague Lissa Lynch. We work for Abt Associates, a research consulting firm in Cambridge MA. We are working with the U.S. Environmental Protection Agency to conduct an evaluation of the Pollution Prevention Resource Exchange, or P2Rx. We're conducting focus groups with Technical Assistance Providers to learn your perspectives about P2Rx. We're also holding focus groups with the regulated community for the same.

P2Rx is a consortium of eight regional pollution prevention information centers, funded in part through grants from EPA. These centers all provide pollution prevention information, networking opportunities and other services. *(Be prepared to define pollution prevention.)*

The centers you might be familiar with are:
- Western Regional Pollution Prevention Network (WRPPN)
- Ed Gonzalez
  or
- Pacific Northwest Pollution Prevention Resource Center (PPRC)
- Chris Wiley

The overall goal of this focus group is to gather information about P2Rx to aid in our evaluation of the program's effectiveness in reaching the regulated community (P2Rx's end users) with the information and mechanisms provided. This evaluation is not intended as a critique of centers' achievements or comparison of achievements across centers.

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We would like to tape record the sessions to be sure our notes are accurate. Does anyone have any objections to this?

Before we start our discussion, does anyone have any questions?

OK, let's begin.

1. I'd like to get a sense of whether you are from a state or a local TAP, or a related organization, and what your role is. *(go around room.)*

2. What do you feel you need to promote businesses' adoption of pollution prevention, or P2 practices?
   Note: when we say "businesses," we mean broadly your end users, or the regulated community. Is there a term that would be more suitable?

3. In your view, are the P2Rx centers providing the right products, services, and content to you to promote the adoption of P2 practices by businesses?
   a. What value do you see in P2Rx for you and your clients?

4. How would you describe your role in terms of promoting P2Rx and the centers? Do you pass on information about P2Rx when you're helping businesses? If so, what types of information and how?
   a. To what extent do you actively promote P2Rx?
      (scale of 1-5, 1 being not at all, and 5 being to a great extent)
   b. How useful do you feel that has been at helping businesses make changes?
      (scale of 1-5 again)
   c. Which resources provided by P2Rx have been most helpful? Which have not been particularly helpful?

5. What do you know about the effect P2Rx has had on the implementation of P2 by business?
   a. Are you aware of any businesses that have used P2Rx information to make changes?
   b. If so, is there any information publicly available about that?

6. What suggestions can you make about how to measure the effectiveness of the P2Rx centers on the adoption of P2 by businesses and other end users?

7. Are you aware of EPA's interest in having the P2Rx centers deal more directly with end users? What do you think about this?

8. Are there suggestions you would make, or recommendations, about getting P2Rx information to the end users more effectively?

This is our final question:

9. We've conducted this meeting to help us evaluate the effectiveness of P2Rx. In addition to finding out how well P2Rx and its centers are working, we want to learn how to improve the program for the future. Is there anything we've missed? Is there anything you came to this meeting wishing to say that you haven't had a chance to say?

Thank you for participating in this focus group. Your comments and viewpoints are extremely valuable, and we appreciate you taking the time to share them with us. We'll be around for a

few minutes if you have any questions about the study, and feel free to contact Beth Anderson at EPA Headquarters with any questions in the future. The report is due to be completed next summer and you can see a copy by contacting Beth Anderson.

Appendix H – Center and National P2Rx Documents Reviewed for Analysis

- Grant reports submitted periodically to EPA
- PPRC case studies: Canyon Creek Cabinets, Columbia Paint and Coatings, Lasco Bathware, and Woodfold Manufacturing
- Case studies of a fiberglass molding company, a chemical company, and a thermoplastics company from Zero Waste (e-mail)
- Case examples of successes from GLRPPR (e-mail)
- Report for the EPA Region 6 PPIN Grant, FY 2007, Zero Waste Network. Final Report for three year P2Rx Grant Awarded to the University of Texas, Austin
- Conference Evaluation Summaries from WRPPN/PPRC 2007 conference
- Survey Results from State P2 Coordinators about FY 2006 Priorities (Region 8/Peaks to Prairies)
- Tribal Needs Assessment Survey (Peaks to Prairies)
- NEWMOA FY 2006, 2007, 2008 Survey Results
- Summary of Feedback on P2 Results Data System (GLRPPR)
- Great Lakes/Great Plains P2 Conference March 13 & 14, 2007 Chicago, Illinois feedback form
- December 2006 "Ask your states…" survey conducted by EPA
- Library Evaluation and Performance Measures: A Literature Review and Research Summary prepared by Fred MacVaugh for PPRIC, February/March 2007
- Various e-mails from center directors and staff
- Center and P3Rx websites
- 2007-2008 P2Rx Strategic Plan External Draft, Revised 1/18/07
- "P2Rx Centers' Processes for Identifying Regional Needs" November 8, 2006
- "Why P2Rx?"

Appendix I – Abt Associates Data Analysis Plan

Evaluating the Effectiveness of EPA's Pollution Prevention Information Network (PPIN)
Grant Program
Data Analysis Plan

Data analysis for the P2Rx evaluation will focus on primary data gathered through interviews and focus groups conducted by Abt Associates in 2007 and 2008, as well as logic models developed for this evaluation. This information will be supplemented by information obtained from other sources, specifically:

- 2007/8 Behavior Survey
- Web Activity Measures
- 2004 Customer Satisfaction Survey
- 2004 Interview summaries
- Center-Specific documents

Where findings for a particular research question are contradictory, primacy will be given to the primary data. This data analysis plan provides more extensive detail on the analysis of the 2007/8 Behavior Survey than on the other data sources, as requested by the EPA Work Assignment Manager.

2008 Interviews
Abt Associates has conducted telephone interviews with three key audiences for the evaluation:

- P2Rx center directors or key staff
- Business representatives, and
- Technical assistance providers.

The interview questions were written specifically to address the evaluation questions for which there is no other source of information. Because these interviews are a primary data source, and provide information rich in context and insight, these results will form the foundation of the overall evaluation. Further, the ability to address the three key audiences provides information not obtained elsewhere.

Findings will be synthesized and summarized by theme, generally tied to the evaluation questions, for each of the three audience types. We will identify similar answers within each audience type and where consistent answers are identified, a descriptive characterization will be offered. The unique perspectives of each audience type, as well as of each individual center, will be portrayed. For the centers, we will note whether or not we heard similar answers across centers and what the similar and dissimilar responses were. On issues for which a set of centers presented a consensus, we will synthesize those responses and contrast it with those that departed from the consensus. In many cases there will be no clear consensus on a topic, and these responses will be given less credibility in the report than those that are more consistent.

Focus Groups:
Focus groups were conducted at the Western Regional Pollution Prevention Conference in San Diego, a conference that was hosted by the PPRC and WRPPN centers. Focus groups were conducted with technical assistance providers (TAPs) (2 groups) and with business representatives (1 group). Representation at the focus groups was from these two regions. The businesses represented were extremely varied. Taken in this context, results will be used

together with interview results as a foundation for the analysis. The focus groups provide in-depth information and opinions from a small number of conference participants.

Similar to interviews, findings from the focus groups will be synthesized and summarized by theme, generally tied to the evaluation questions, for each of the two audience types. We will identify similar answers within each audience type and where consistent answers are identified, a descriptive characterization will be offered. The unique perspectives of each audience type will be portrayed. Information obtained from the TAPs will be much easier to summarize than from the business group. For this audience, we will note whether or not we heard similar answers across TAPs and what the similar and dissimilar responses were. On issues for which a number of TAPs suggested a consensus, we will synthesize those responses and contrast it with those that departed from the consensus. In many cases there will be no clear consensus on a topic, and these responses will be given less credibility in the report than those that are more consistent.

Logic Models
Logic models had been developed by each center individually, which were then combined by Abt Associates into a single "generic" logic model. This generic model was used as a launching point for drawing comparisons and relationships among different aspects of center operations. Feedback was solicited on the generic logic model during interviews with P2Rx center staff. This information will be analyzed and interpreted to identify similarities and differences between centers, and possibly groupings among them. Logic models will be used to answer Evaluation Question 1 only.

2007/8 Behavior Survey:
Behavior Survey administered using Survey Monkey
Behavior Survey administered in hard copy

The Behavior Survey was administered electronically through a link on each center's website (using Survey Monkey), as well as being administered to various live audiences in a hard-copy format. Both sets of results were provided to Abt Associates by individual center. Abt will merge the center data together into a single data set and conduct our analysis on that set. A detailed center-by-center comparison of these survey results is not within the scope of this evaluation and can be obtained by examining the Survey Monkey results directly.

Hard copy surveys differ from electronically administered surveys in two ways: some response options varied (to a small extent); and the hard copies did not limit the number of possible responses on certain questions for which Survey Monkey restricted to one. For this reason we may have to analyze the hard copy surveys slightly differently than the electronic surveys. Any differences will be documented in the final report.
Logs were kept by some centers who reached out to specific audiences for responses, either in administering hard-copy surveys or by sending directed e-mails asking people to respond to the on-line survey. The log information will be used as available to identify particular sources of bias in respondent types.

The following analysis will be conducted on survey results with numeric results presented in tabular form and summary findings included in narrative with appropriate caveats regarding the statistical limitations of the data. The analysis will be bivariate for all questions, with cross tab descriptions for each of the two respondent groups.

Respondent Type:

The following question will be used to separate the two types of respondents.
1. Please select one option from the following list:
- I primarily use [P2Rx] to find environmental assistance information to apply to my own organization or facility. ("Business")
- I primarily use [P2Rx] in my capacity as a provider of environmental assistance to others outside my organization. ("TAPs")
    The two groups will be analyzed together and separately.

Representation Type:
The following question will be used to determine what types of organizations responded to the survey.
2. What type of organization do you represent? (Check all that apply.)
Frequency (%) for each possible response for each of two groups.

Frequency of Use:
This question will be used to determine how frequently each respondent used the P2Rx or its center's resources.
3. How often do you use [P2Rx]? (Check only one answer.)
Frequency (%) of each possible response for each of two groups to compare use, and total combined for summary of responses.
For the hard-copy responses, omit those who said they never used it from the analysis, but capture the number.

How Learned About:
This question will be used to get an indication of how respondents became aware of P2Rx and its center's resources.
4. How did you hear about [P2Rx]? (Check only one answer.)
Frequency (%) of each possible response for each of two groups to compare, and total combined for summary of responses.

Awareness (Outcomes):
This question will be used to learn the extent to which short-term outcomes may have been impacted by P2Rx for both business and TAPs.
5. (Business) [P2Rx] helps me to improve my awareness of environmental practices to reduce pollution. (Check only one answer.)
5. (TAPs) Access to [P2Rx] information has improved my ability to provide technical assistance to my clients. (Check only one answer.)
Frequency (%) of each possible response.

Usefulness:
This question will provide information about how useful each audience type found the P2Rx center resources.
6. How useful were [P2Rx] resources in meeting your needs? (Please make one selection for each resource listed.)
Frequency (%) of each possible response for each of two groups to compare, and total combined for summary of responses.
Note: available responses to this question will vary by center outside of a core group of resources. We may choose to analyze the core group only, as responses regarding center-specific resources are limited by the number of respondents for that center.

Type of Use:

This question will provide information about what information was used and in what way by each audience.

7. (Business) How did you utilize the [P2Rx] website(s)? (Check all that apply.)

7. (TAPs) What information did you use to improve or influence your clients' understanding of environmental practices to reduce pollution? (Check all that apply.)

Frequency (%) of each possible response.

Note: Available responses to this question differ between the two audience types. Results are not comparable.

<u>Behaviors (Outcomes)</u>:

This question will be used to learn the extent to which intermediate-term outcomes may have been impacted by P2Rx for both business and TAPs.

8. (Business) What action(s) have you taken to improve environmental practices, in whole or in part, due to information you have found through [P2Rx]? (Check all that apply.)

8. (TAPs) What action(s) have your clients taken to improve environmental practices, in whole or in part, due to information you have found through NEWMOA and/or P2Rx? (Check all that apply.)

Frequency (%) of each possible response.

<u>Condition (Outcomes)</u>:

This question will be used to learn the extent to which long-term outcomes may have been impacted by P2Rx for both business and TAPs.

9. (Business) Please identify whether you reduced or eliminated pollutant(s) as a result of [P2Rx] use. (Check all that apply.)

9. (TAPs) Please identify whether your client(s) reduced or eliminated pollutant(s) as a result of [P2Rx] use. (Check all that apply.)

Frequency (%) of each possible response.

<u>Cost Savings (Outcomes)</u>:

This question will be used to learn the extent to which long-term outcomes may have been impacted by P2Rx for both business and TAPs.

10. (Business) Has using [P2Rx] or the action(s) taken above resulted in cost savings to you? (Cost includes time as well as dollars.) (Check only one answer.)

10. (TAPs) Has using [P2Rx] or the action(s) taken above resulted in cost savings to your client? (Cost includes time as well as dollars.) (Check only one answer.)

11. (TAPs) Has using [P2Rx] saved you time or money in serving your client(s)? (Check only one answer.)

Frequency (%) of each possible response.

Web Measures

Use of the Web measures data will be used to answer Evaluation Question 2 only.[14] Analysis will summarize key points about the number of hits to each centers' site, the users' organization

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[14] Question 2: What groups/types of customers access P2Rx information?
How do the customers vary according to method of outreach by the centers?
- Via the website
- Via TAPs
- Via direct contact (e.g., telephone, correspondence, or other communication)
- Via P2Rx workshops, trainings, and regional meetings

type, and what products are accessed. Combined center data will be used to illustrate the relative use of the national network by different audiences or by different product/service types.

A detailed center-by-center analysis will not be conducted. However, center-specific data will be used in context to illustrate findings in the evaluation (i.e., relative popularity of a particular resource mentioned during interviews). It may also be used to illustrate overall differences in how the Centers function and where they focus their attention. Only loose connections can be drawn to address the question of "How do the customers vary according to method of outreach by the centers?" This will be done by looking at the most prevalent customer type and the most prevalent method of outreach used, but a link from customer to outreach type is not able to be drawn with the available data.

2004 Customer Satisfaction Survey
This survey had nearly 500 responses, mostly from state and local government and TAPs, with only 7% of respondents from industry. To address specific evaluation questions, the data will be broken out by customer group (i.e., business versus government/TAP respondents, where possible). Data from select questions on this survey will be used to add detail to the analysis. Additional insight will be gathered from the summary and PowerPoint presentations prepared by Weinreich and Associates.

2004 Interview Summaries
Interviews were conducted by IEc Inc. for an earlier evaluation. While this evaluation did not directly address the questions we are currently addressing, interviews were conducted with EPA managers and project officers, P2Rx coordinators, P2Rx center contacts, and TAPs, and some general points were captured that will help inform this evaluation. The summaries of these interviews will used on an ad hoc basis to glean additional information that will help us respond to the current set of evaluation questions.

Center-Specific documents
An array of documents has been obtained from individual centers, including surveys, case studies and other materials. Surveys and case studies may be used to informally connect P2Rx center activities to outcomes. Other documents will be used on an ad hoc basis to add detail to the evaluation.