

Performance Measurement



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10. Performance Measurement and Evaluation

10.1. Definition of Performance Measurement and Evaluation

Performance measurement and evaluation is a strategy used by the Program to evaluate whether project staff are completing tasks effectively, efficiently and on time. It can also help to ensure that the Program is having the desired result in the community to improve public health and environmental conditions impacted by hazardous products, chemicals, materials and wastes. Performance measurement starts with four key questions:

- What change is needed in the community to improve people's health and environmental conditions?
- Where should Program efforts be concentrated?
- What strategies and activities are needed?
- What indicators would be useful in showing progress (and what data will reflect these indicators)?

Projects are developed in response to key issues, and progress indicators are identified. Data related to these indicators are tracked to show the Project's progress. This is known as measurement and evaluation (M&E).

10.2. Performance Measurement and Evaluation in the Program

Because early Program plans focused on setting targets for service delivery and outputs, they didn't explicitly identify and evaluate community-level changes resulting from Program services. The Program's 2006 strategic planning effort took a different approach by identifying specific goals and measurable outcomes, and emphasizing collaborations among partners to enact changes in policy and legislation.

These changes created the need for an M&E system that would measure outcomes and evaluate whether they led to the desired goals. The new M&E system needed to include a reporting system that could provide information about Program results to a variety of audiences. Results could be reported by issue or chemical (e.g., stormwater or mercury), by customer category (e.g., residential or business/institution), by expenditures, or a combination of these.

For many years the Program's quarterly reports tracked the actual work completed by the Program, or Program 'outputs.' These outputs might include the number of classes held, consultations performed or businesses certified as EnviroStars. Outputs were originally tracked on a Gantt chart and later in an Access database. The database allowed the Program to summarize information at the task level and compare expenditures against budget for project areas. The Access report included color-coded bars to show where activities were ahead, behind or on target for the quarter, based on yearly target numbers.

Actual outcomes, as opposed to tasks or activities, were measured for a small number of Program goals, like the amount of household hazardous waste (HHW) collected or the percentage of waste stream managed to Washington State Department of Ecology (Ecology) recommendations. This tracking system accustomed Program staff to regularly reporting on their work, and it was praised in the hazardous waste management arena.

10.3. Tracking and the 2006 Mission

The Program's current mission is to "protect and enhance public health and environmental quality in King County by reducing the threat posed by the production, use, storage and disposal of hazardous materials." This means that in order to determine if the threat has been reduced, the Program must not only track its activities and services, but it must monitor and track the community-wide changes produced in people's lives and health, and in the environment. To accomplish this, the Program adopted a performance measurement approach based on monitoring and evaluation.

Project monitoring helps answer the question "Are we doing things right?" The monitoring process tracks Project activities and outputs, to determine if the Project is meeting its timeline. For those Projects that set targets for how many or how much service they can deliver, the monitoring process determines whether the targets are met.

If targets aren't met, managers review quarterly reports to determine the underlying causes and whether these are internal or external. If internal, the problem is addressed by shifting resources or by other means; if the problem is external, decisions are made about changing the approach or revising the work plan to address the outside constraints.

Evaluation is the process used to determine whether the Project, and the Program, are making the desired difference in the community. Evaluation measures effectiveness and also helps answer the question "Are we doing the right things?" For Projects that can predict or set targets for effectiveness, program evaluation determines if the target has been met. Projects that are new to the program, and have no history or other work to compare against, set effectiveness directions (better, worse, more, less) and report on those.

10.4. Performance Measurement Framework: A Systems Approach

To evaluate twenty-four Projects working in a variety of arenas, the Program needs a system that will report all Project outputs, provide Project and Program evaluation, and be understandable and relevant to a variety of audiences. The evaluation framework developed by the Program has adapted elements from the Balanced Scorecard¹ and the Spectrum of Prevention, a public health

¹ Robert S. Kaplan and David P. Norton, *The Balanced Scorecard* (Boston: Harvard Business School Press, 1996).

planning model incorporating a systems perspective.² The Balanced Scorecard suggests that the organization is viewed from four perspectives, and could develop metrics, collect data and analyze it relative to each of these perspectives: a) Learning and Growth, b) Business Process, c) Customers, and d) Financial.³ The Spectrum of Prevention moves beyond the perception that prevention is merely education by identifying multiple levels where intervention can occur. Its six levels for strategy development are complementary and, when used together, produce a synergy that results in greater effectiveness than would be possible by implementing any single activity or linear initiative. This systems approach to measuring and evaluating the Program's service delivery supports the new directions that were developed in the 2006 strategic planning process. By combining these two approaches, and adding a category for environmental change, the Program created a new Performance Measurement Framework with ten categories, as shown in Figure 10-1.

Figure 10 -1 Performance Measurement Framework Categories

Category	Definition
Influencing Laws and Regulations	Develop strategies to change laws and regulations in order to influence outcomes.
Changing Organizational Practices and Policies	Adopt policies and practices to improve health and safety (nongovernmental groups, governments, schools).
Fostering Coalitions and Networks	Bring together groups and individuals to develop broader goals with greater impact.
Working with Business	Inform and influence business (manufacturers or retail) to improve practices or transmit skills and knowledge to others.
Promoting Community Awareness & Education	Reach groups of people with information and resources to promote health and safety.
Strengthening Individual Knowledge, Skills, Actions	Enhance an individual's capability to prevent injury or illness and promote safety.
Effecting Environmental Change	Reduce risk to populations and the environment, and improve environmental conditions in quantifiable ways (e.g., tons of hazardous waste properly disposed, percent decrease in number of people exposed).
Developing Capacity	Increase staff knowledge and skills, especially for new initiatives.

2 Larry Cohen and Susan Swift, "The Spectrum of Prevention: Developing a Comprehensive Approach to Injury Prevention," *Injury Prevention* 5: 203-207, 1999. The *Spectrum of Prevention* was originally developed by Larry Cohen while he was director of the Contra Costa County (CA) Health Services Prevention Program. The *Spectrum* is based on the work of Dr. Marshall Swift in treating developmental disabilities. It has been used nationally in prevention initiatives targeting traffic safety, violence prevention, injury prevention, nutrition, and fitness. From preventioninstitute.org/tool_spectrum.html, website accessed January 6, 2009.

3 What is the Balanced Scorecard? *BalancedScorecard.org: The Balanced Scorecard Institute*. 2009. Website accessed November 4, 2009, <www.balancedscorecard.org/BSCResources/AbouttheBalancedScorecard/tabid/55/Default.aspx>.

Category	Definition
Improving Internal Business Process	Create internal standards for service delivery, and create quality control and improvement measures. Create Core Customer Measures, including market share, customer acquisition and customer satisfaction. Create customer relationship measures, and measures of Program image and reputation.
Maintaining Financial Controls	Track revenue and expenditure, make financial projections, track productivity and monitor cost effectiveness.

10.5. Key Performance Indicators

The Program’s Key Performance Indicators (KPIs) are the high level outputs and indicators associated with each performance measurement category. They are used to track the Program’s progress towards its broad goals and outcomes. They do not measure the performance of a specific project or individual. KPIs are metrics used to quantify objectives that reflect the strategic performance of an organization. They help assess the present state of the Program and prescribe a course of action. The process of monitoring KPIs in real time is known as business activity monitoring. KPIs help measure progress towards organizational goals and are often used to assess difficult-to- measure activities such as the benefits of leadership development, engagement, service and satisfaction. KPIs are typically tied to an organization’s strategy, as exemplified through techniques such as the Balanced Scorecard. A KPI is a measurable objective, which may include direction, benchmark, target and time frame. In the objective “Increase Average Revenue per Customer from \$10 to \$15 by end of year 2008,” the KPI is ‘Average Revenue per Customer’.⁴

KPIs were developed for the Program in 2007 by generating a list of potential activities, outputs, outcomes and indicators. Specific criteria, which are listed in Appendix F, were used to narrow the initial list to a final list of KPIs. These indicators were approved in August 2007 and are also listed in Appendix F. As an example of our performance evaluation efforts, the Nail Salon Project’s Logic Model in Figure 10-2 illustrates how indicators and performance categories are assigned and tracked. The “Activities” column describes the discrete activities that Project staff will do. Each row contains a separate activity. The “Output” column lists the amount and type of activity that will be tracked. The “Outcome” column states the change in the community, person or organization that results from the activity. The “Indicators” column gives the Performance Category as well as the applicable Key Performance Indicators.

⁴ Performance Indicator. *Wikipedia.org: Wikipedia, the Free Encyclopedia*. 2009. Website accessed November 4, 2009, en.wikipedia.org/wiki/Key_performance_indicators.

Figure 10.2 Nail Salon Project Logic Model

Logic Model for the Nail Salon Project			
Activities	Output	Outcome	Indicators
<p>A. Nail Salons – Site Visits. Train nail salon technicians how to reduce solvent exposure by conducting visits to their businesses with a Public Health consultant and Vietnamese community member.</p> <p>Conduct a follow up visit 6-12 months later to observe operational changes in the nail salon.</p>	<p>Number of nail salons in central, south, and south unincorporated Seattle visited.</p> <p>Number of technicians trained.</p>	<p>Increase in awareness and skills in preventing solvent exposure in nail salon technicians.</p> <p>Decrease in solvent vapor exposure to workers and customers in King County nail salons.</p> <p><i>By the end of 2009, 20% of nail salons in King County have implemented best management practices (BMPs) to minimize solvent vapor exposure.</i></p>	<p>Working with Business</p> <p>Percentage of potential sites contacted, and/or worked with {number of sites (potential)}:</p> <ul style="list-style-type: none"> • elimination of waste solvent being produced; • use of less toxic alternatives; • improved indoor air quality by use of ventilation equipment and personal protective equipment; • safer use of volatile chemicals; • proper storage and labeling of hazardous materials; • MSDS sheets readily available.
<p>B. Workshops. Train nail salon technicians how to reduce solvent exposure by teaching a workshop.</p>	<p>Number and dates of trainings.</p> <p>Number of attendees.</p>	<p>Increased knowledge about how to reduce solvent exposure and use.</p>	<p>Strengthening Individual Knowledge, Skills, Actions</p> <ul style="list-style-type: none"> • percentage of targeted people that attend training; • percentage of attendees that report increased knowledge; • percentage of attendees that report they will use knowledge; • percentage and range of satisfaction with the training.

Activities	Output	Outcome	Indicators
<p>C. Beauty Schools. Work with beauty schools to decrease solvent exposure and incorporate BMP in their curriculum</p>	<p>Number of schools contacted.</p> <p>Number of schools visited and discussed BMP.</p>	<p>Beauty schools incorporate BMPs into curriculum.</p>	<p>Changing Organizational Practices:</p> <p>Number of Beauty School operators that agree to incorporate BMP:</p> <ul style="list-style-type: none"> observed changes in school practices, instructional guides; curriculum contains BMP.
<p>D. General Public. Inform the public about safer nail salon products and procedures at community events like Tet Vietnamese New Year Celebration, International District fair, etc.</p>	<p>Number of fairs, days and contacts made.</p> <p>Number of follow up appointments made as a result of contact at fair.</p> <p>Number of educational materials distributed.</p>	<p>Increased awareness of issue among general public (community that most workers live in, as well as salon customers).</p>	<p>Promoting Community Awareness & Education</p> <ul style="list-style-type: none"> Number of fairs, days and contacts made. Number of follow up appointments made as a result of contact at fair. Number of educational materials distributed.
<p>E. Washington State Department of Licensing (DOL). Encourage DOL to add one of the nail salon BMPs for chemical handling & disposal in their rules.</p>	<p>BMP added to DOL materials.</p>	<p>Increase awareness of solvent exposure hazard among nail salon technicians (trainees), from DOL incorporating information in their curriculum.</p>	<p>Changing Organizational Practices:</p> <p>DOL includes HW management, etc. in training manuals.</p>

10.6. Data Collection and Reporting

The data needed for measurement and evaluation are included as part of Project work plans. The work plans are comprised of strategies, activities, tasks, outputs, dates and responsible persons, and are designed so that Project coordinators can report quarterly on the status of the Project. In addition, selected outputs are associated with KPIs during work plan review by the Evaluation Coordinator (EC) and the Data System Team.

During the period 2007 to 2009, the Program did not use a computer-based reporting system. Instead, Project teams submitted quarterly reports according to a prescribed format. These were reviewed by the Core Team and year end reports were summarized for the Management Coordinating Committee

(MCC). The Program is currently designing and building a “consolidated data management system” that will have data reside online. That new system is called an “Extranet.” Its design is responsive to both Project and Program level data needs. The computer-based quarterly reports generated by the Extranet will offer two improvements to the previous reporting system. First, the system will provide Web-based performance reports that can be tailored to a variety of audiences, including the Board of Health, the MCC, the Core Team, Project coordinators, stakeholders, other agencies and the general public. Second, the reports will include “real time” performance reporting, such as “scorecards”, for goals, outcomes, KPIs, objectives, activities/outputs, customer categories, city reports and financial information. The format of the Web-based reports will be similar to a format used by Spokane County on their Spokane Community Initiatives page at www.communityindicators.ewu.edu. Examples of these reports are in Appendix F.

10.7. Future Improvements in Evaluation

Performance evaluation functions best as an essential part of an overall quality improvement strategy. Future evaluation should increase the capacity to learn from, and apply, evaluation data. That learning could result in refinements to the Program’s activities and possibly its structure. The process should strive for continuous improvement through:

- Leadership commitment and visibility;
- Quality planning including setting annual goals, measures and activities;
- Measurement and reporting to track progress and demonstrate improvements; and
- Structure and resources to build capacity for continuous improvement across the Program.

In essence, these components should reflect a deliberate and defined process for improvement, such as “Plan-Do-Check-Act”.⁵ This would be focused on activities that are responsive to community needs, and improving the local health and environmental conditions that are the foundation of the Program’s mission.

In an effort to further improve performance measurement, reporting and evaluation, additional elements may be added to the system. These may include:

- Theory-based strategies for projects;
- An evaluation of the performance measurement approach, including an external audit or review;
- Including the allocation and expenditures of evaluation resources to the performance measurement;
- Increasing the Program’s demand for, ability to conduct and use of evaluations;
- Sharing lessons learned and examples of program evaluation; and
- Including stakeholder input in developing the goals, outcomes and indicators.

⁵ Lenaway, Dennis PhD, MPH; Corso, Liza C. MPA; Buchanan, Sharunda PhD; Thomas, Craig PhD; Astles, Rex PhD, DABCC, FACB. *Quality Improvement and Performance: CDC’s Strategies to Strengthen Public Health*. Journal of Public Health Management and Practice: January/February 2010. p 11–13.

The new performance measurement system does not incorporate the theory that the Project is based on. While many of the strategies used in Projects are based on theories of behavioral change, such as the Transtheoretical Model for behavior change⁶ and social marketing⁷, these aren't currently referenced in Project work plans. Project evaluations are based on the Spectrum of Prevention and the outcomes from the strategic planning process, not theories. This is changing. Many Project coordinators received training on Theory of Change⁸ in 2009, and the 2010 work plans will contain a brief description of each Project's theory of change. In the future, performance measurement may include evaluation points that show how well the Projects performed in terms of the underlying theory. By using the Spectrum of Prevention and the Balanced Scorecard as the bases for the planning and evaluation of Projects, the Program is taking a systems approach to service delivery.

After implementing this new approach, the Program will evaluate its effectiveness using the framework described above as the structure for the review.

The Program does not currently measure the resources allocated to evaluation efforts outside of the Evaluation Coordinator position. While some Projects record survey costs and other measurement expenses, these are currently not captured in Project and Program summaries. In the current system, the Evaluation Coordinator reviews work plans and reinforces both the 'why' and the 'how' of evaluation. The Evaluation Coordinator increases the capacity of Program staff to evaluate their work by demonstrating the usefulness of evaluation, providing instruction on evaluation methods, and ensuring that the data and reporting systems are easy to use and provide helpful information.

From 2002 to 2005, many Project teams were trained in evaluation, and a Program-wide training was held in June 2005. In 2008, the King County Office of Human Resource Management Training and Organizational Development added "Evaluation 101" to its curriculum and offered an "Evaluation 201" course for supervisors and managers. Program staff have attended these courses. Most recently, in 2009, an outside consultant conducted training on Theory of Change for most Project coordinators and some staff.

It is important to share Project and Program findings with others, such as the American Evaluation Association conference, the Washington State Environmental Health Association, and the North American Hazardous Material Managers Association, as the Program will benefit from their comments and suggestions. The Association of Government Accountants Service Efforts and Accomplishment Report (www.agacgfm.org/performance/sea/) review process provides critiques based on standardized criteria. Sharing the information about the development and use of the

6 J.O. Prochaska, *Systems of Psychotherapy: a Transtheoretical Analysis*, (Pacific, CA: Brooks-Cole, 1979).

7 Doug McKenzie-Mohr and William Smith, *Fostering Sustainable Behavior*, (Gabriola Island, British Columbia: New Society Publishers, 1999).

8 Karen Glanz and Barbara K. Rimer, *Theory at a Glance: A Guide for Health Promotion Practice*, (Washington, D. C.: National Cancer Institute, National Institutes of Health, U.S. Department of Health and Human Services, NIH Publication number 97-3896, Revised September 1997).

new performance measurement framework is important as it can provide an example for others to follow. The Program is considered a leader among local hazardous waste management programs in the United States⁹ and its performance measurement and evaluation system is an example that other programs can use. Also, others' experience and critique of the Program's system can lead to improvements in it.

While the 2006 strategic planning process had limited stakeholder involvement and was considered an internal exercise, future Program planning processes will strive for more direct input. As one example, the process for developing this Plan Update included a workshop advertised to over 600 agency, business and community contacts. It has also included focus groups with businesses, and numerous meetings with representatives and community based organizations from historically underserved populations. We intend to use the contacts in the future in our planning processes.

10.8. Conclusion

The 2006 strategic planning effort laid the groundwork for improved performance measuring and reporting. By emphasizing goals and outcomes, that effort guided the Program into the next phase of performance measurement, beyond "What did we do?" to "Are we seeing the results in the community that we expected?" Development and use of the on-line data system and reports will provide the information Program managers need to direct the Program, conduct Projects efficiently, and create effective community change.

⁹ "LHWMP has garnered more awards from NAHMMMA in general and for specific projects than any other program in the country." Ray Carveth, North American Hazardous Materials Management Association awards committee chair, personal communication, November 2009. See Appendix H for a partial list of Program awards.