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Stormwater Action Monitoring

Designing and Evaluating Behavior Change Marketing Campaigns

Effectiveness Study

Lead Entities

Partner

Stormwater Action Monitoring

(SAM) is a collaborative, regional stormwater monitoring program funded by more than 90 Western Washington cities and counties, the ports of Seattle and Tacoma, and the Washington State Department of Transportation. SAM's goal is to improve stormwater management by measuring stormwater impacts on the environment and evaluating the effectiveness of stormwater management actions.

Questions about SAM?

See ecology.wa.gov/SAM

Study Goals

The overall goal of this study was to provide jurisdictions with tools to identify and select which stormwater problems and behaviors to focus on as well as guidance for conducting and reporting effectiveness evaluations. These evaluations can then inform and improve future education and outreach (E&O) efforts in a positive feedback loop of doing and learning.

Study Objectives & Project Findings

1. What types of stormwater problems are amenable to, and best addressed, by behavior change efforts?

The annotated bibliography provides an overview of stormwater pollutant prioritization by summarizing several critical, peer-reviewed studies from the last 15 years. One of the summarized projects is the cumulative environmental factors study by the Washington Department of Health.

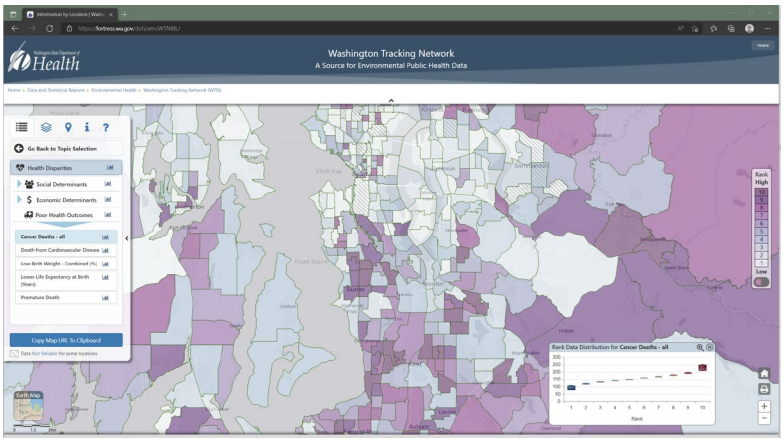

Figure 1: An interactive mapping tool that ranks the cumulative risk from environmental factors faced by Washington neighborhoods.

https://fortress.wa.gov/doh/wtn/WTNIBL/

Other key findings from literature, interviews and surveys are that a) most campaigns focus on pet waste and yard care; b) there is a desire for additional training on social marketing and program evaluation; c) staff feel that campaigns are often under-resourced; and d) additional high-quality evaluations of behavior change campaigns are needed.

2. Evaluate effective behavior changes tools in the literature and create a compilation tool organized by stormwater issue for jurisdictions to use.

A systematic review of behavior change campaigns was conducted which included evaluating the research quality on nine criteria. We rated 25% of studies as "fair", 66% of studies as "good", and 9% as "exemplary". Most studies identified well-targeted audiences and behaviors, and the majority collected pre-intervention data. However,

three-quarters relied on self-reported data, and only 13% measured behavior in a comparison group. We created **www.waterbehaviorchange.org** to help jurisdictions search for information on evaluations of existing campaigns around the country. It also provides jurisdictions with guidance on choosing their own campaigns (as a downloadable spreadsheet).

3. **Jurisdictions can now use the report template to report on behavior change evaluations.**

   Western Washington Permittees can use a template developed in this project to meet their stormwater Permit E&O requirements (Phase I S5.C.11.a.vi-vii and WWA Phase II S5.C.2.a.ii.(e)-(f)). The template streamlines report writing by identifying what information is required by the Permit, providing suggestions for content, and highlighting the basic information Ecology would like included in Permittees' final report.

4. **Guidance manual helps jurisdictions evaluate the effectiveness of their behavior change campaigns.**

   Permittees can use the Evaluation Guidance Manual developed as part of this project to assess understanding and adoption of targeted behaviors of their implemented behavior change campaign. The manual content includes information about social marketing and community-based social marketing resources, sample size selection, common evaluation instruments (e.g., surveys, observational data checklist), data types, and analysis methods.

Why does this study matter?

This study synthesizes and evaluates effective behavior change campaigns for local jurisdictions to use to improve stormwater management success. It provides behavior change professionals with information and guidance they can apply to their own permit-required programs.

What should stormwater managers do with this information?

Cities and counties cannot fully control all the stormwater draining from the urban environment. Aspects of their stormwater management programs which aim to change behaviors of households, businesses, and others are critical tools in improving stormwater quality and protecting our natural resources. Managers can use information from the website, literature review, and evaluation guidance manual to help select suitable behavior change campaigns and then evaluate those efforts using valid approaches. Those evaluations can inform their decisions on management needs and future campaigns. Permittees may also use the report template to meet their permit reporting requirements.

What will Ecology do with this information?

Ecology considers social marketing to be a Best Management Practice (BMP) used to achieve behavior change that will reduce impacts of stormwater discharges to the environment. The permit requirement on behavior change requires significant time and resources to create and implement behavior change campaigns for the target audiences. Ecology will reference this project's products in our guidance as resources for local programs implementing and reporting on the effectiveness of the education and outreach programs. The literature review of pollutants, online decision tool, the reporting templates, and evaluation guidance can be used to inform new campaigns or evaluation of existing efforts. The template and guidance are written for use on large and complex campaigns or small and simple ones.

For more information see the completed project at ecology.wa.gov/SAM Effectiveness Studies or contact the study leads: Dr. Joe Cook joe.cook@wsu.edu, Dr. Aimee Navickis-Brasch aimee@evergreenstormh2o.com, Dr. Ani Jayakaran anand.jayakaran@wsu.edu, and Laurie Larson-Pugh laurie.larson-pugh@wsu.edu.

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