

2005 Oregon EPHT Mini-Grant Technical Outreach Program

Working with partners on local issues: Learning together to build capacity

Draft report: Written and submitted by Marina Counter, August 22, 2005.

Background and Objectives:

In 2004, Oregon's EPHT program awarded capacity building mini-grants to six local health departments for converting records to electronic format, purchasing software, training staff and tracking environmental hazards and health outcomes.

As a result of discussions with the mini-grant counties about barriers they were encountering, Oregon EPHT staff developed and implemented a follow-on Technical Outreach Program. The goal of the outreach program was to facilitate and assist local capacity building in the following areas:

- 1. Data and Geographic Information Systems (GIS)*
- 2. Sustainability*
- 3. Information sharing across counties and between the state and the counties*
- 4. Interdisciplinary communication between information technology (IT), GIS, environmental and public health staff*

Methods:

- Need assessment: Two research analysts assessed the technical needs of the county grantees through a series of phone and email conversations.
- Technical assistance by phone and email: Technical questions were answered by phone or email within 24 hours whenever possible.
- Training manual and database: An introductory GIS training manual and demonstration database were developed for local health department use.
- Site Visits: EPHT staff conducted site visits to mini-grantee public and environmental health departments to provide GIS training and discuss sustainability and communication issues.

Results:

All six of the grantee counties collaborated in this technical outreach program. Local GIS, IT, public health and environmental staff shared their expertise and experiences concerning the EPHT project and the EPHT mini-grants. The four capacity building objectives of this outreach program were accomplished through technical discussions, development of training materials and site visits:

1. Data and Geographic Information Systems (GIS) –

Oregon EPHT research analysts assessed GIS and database needs through a series of telephone and email conversations. Despite the diversity of health outcomes and environmental hazards focused on by the six counties, common technical themes were identified. These included difficulties in migrating from paper to electronic record keeping, unfamiliarity with GIS and database software, lack of data and problems linking disparate databases.

Four counties received technical assistance about data and GIS by phone and email. Types of assistance included helping design GIS data tables for tracking hazards as well as answering questions about databases, data analysis, geocoding, and integrating data into a geographic information system.

A quick start GIS training manual and demonstration data table were developed by the research analysts as an introduction to ESRI ArcGIS® software. These tools provided self-directed and guided practice entering and editing data, calculating descriptive statistics, charting, symbolizing and mapping data.

Three the local health departments requested site visits for staff training in data management and GIS. The individual and small group trainings addressed specific local needs and were tailored for entry, mid-level and managerial staff at each location. A fourth county used the site visit as an opportunity to have the research analysts review the automatic geocoding, web based tracking program that they were creating and offer suggestions for further development. A fourth mini-grant county plans to have three staff members trained at the Oregon EPHT office after the ArcGIS software is installed and specific technical needs have been identified.

2. Sustainability –

In all six counties, program supervisors and managers expressed concerns about having sufficient funding to sustain the EPHT programs. Many counties lack the resources to attract or retain staff with the analytic, GIS or database skills necessary to develop, use and maintain the programs. Confidence in sustainability was further diminished by a lack of clarity about the eventual format of EPHT and how local and state data would be integrated into a tracking system. In some counties, this influenced GIS software selection and the inhibited the allocation of scarce resources.

Phone and email discussions were held about technical issues related to sustainability. In one county, the research analysts assisted with the development of a data template that could be customized for tracking a broad range of hazards. By keeping it simple and fully integrated in the geographic information system, maximum flexibility for future expansion or contraction was achieved with a minimum commitment of financial or staff resources. In another county, a surveillance program was discontinued after it was realized that the volume of raw data exceeded local capacity to manage or evaluate it. In that county, as in a

number of other counties, the Realtime Outbreak and Disease Surveillance (RODS) system will be used to provide a high quality alternative to local tracking of some health behaviors and outcomes (<http://rods.health.pitt.edu>).

The demonstration data table and GIS training manual will contribute to sustainability by providing local health departments with an efficient tool for consistent training and assessment of entry-level staff in environmental and public health departments. Managers and supervisors who are unfamiliar with GIS may also use these tools for an overview of a GIS based environmental public health tracking system and to communicate more effectively with IT and GIS staff.

The site visits provided opportunities for discussions with managers about methods for sustaining EPHT programs. In addition to providing opportunities to use the data and functionality of GIS for research, analysis and displaying findings in a manner that will be meaningful to other agencies, community stakeholders and funding sources, the tracking system was also presented as a way to improve the quality and efficiency of ordinary and extraordinary local public health operations.

3. Information sharing across counties and between the state and the counties –

Local environmental and public health supervisors and managers wanted to know more about national and state tracking activities in order to facilitate local planning and decision-making. The primary managerial interest in most counties was for greater sharing of EPHT methods between counties to minimize duplication of effort and create tracking programs with compatible database and GIS systems that can be integrated at the state level.

Facilitating and coordinating EPHT activities between counties and between the state and the counties was viewed by local technical and managerial staff as a function best performed by the state EPHT staff. During various phone, email and site discussions it was apparent that all six of the mini-grant counties wanted more technical support and information about what was occurring in other EPHT counties than was possible in this limited technical outreach program.

Areas of information sharing and knowledge transfer that counties would like the state to facilitate in the future include: transition to electronic records, database and software selection, staff training methods, intra/internet decisions, coordination with IT and GIS departments, linking disparate databases and a general sense of GIS and EPHT development throughout the state.

4. Interdisciplinary communication between IT, GIS, environmental and public health staff –

The complexity of environmental public health tracking necessitates good working relationships and sophisticated communication between public and environmental health managers, computer programmers and GIS staff who all have different training, professional orientations, goals and vocabularies. Additionally, many counties have substantial administrative barriers between environmental and public

health and/or between health and GIS or IT departments that compound the difficulties inherent in designing and implementing tracking programs.

In one county, the state research analysts facilitated communication between county public health and GIS/IT staff by acting as an informal intermediary in a three-way email dialog that led to a plan for the database and GIS system design. A similar process in another county resulted in increased awareness of worker resistance to converting to electronic data entry and a broadly supported decision to postpone further EPHT collaboration between local environmental health and IT staff until further refinement in the database design allowed retraining to be managed more smoothly.

During site visits at two counties, the training manual and demonstration data table were used as graphic aids to enhance communication between public health and information technology staff in a collaborative process of communicating and making decisions regarding the choices involved in developing and implementing a GIS based environmental public health tracking system.

Conclusions:

Through technical discussions and GIS training, the outreach program contributed to an increase in local capacity and strengthened relationships between state and local EPHT staff. Through the process of developing and implementing this outreach program, it became apparent that counties may have the necessary incentives, staff talent, data access and collaborative relationships between public health and IT/GIS departments to play a more central role in the Oregon EPHT program than had previously been envisioned.

Recommendations:

We recommend that a plan for a technical capacity building program centered on local health departments be developed and evaluated during the cost extension phase of the state EPHT project. If a "county-centered" model could be adopted for the implementation phase of the state EPHT program, it would provide a number of significant advantages over the current approach:

1. EPHT standards and practices framework for local and state health departments could be cooperatively developed.
2. Minimal use of funding and maximum accountability could be achieved at the state level.
3. Redundancy could be reduced and diffusion of information, skills and tools could be accelerated by funding knowledge transfer between counties.
4. Individual, group or regional county proposals and the stage of county EPHT development could guide resource allocation (county stages: observing, planning, demonstration project, full implementation).

5. Oregon administrative IT/GIS/public health/environmental health barriers and staff limitations that are handicapping the current state EPHT program would be minimized.
6. Core EPHT development would occur at the local level, with the highest resolution data, and where tracking environmental hazards and outcomes has the most immediate benefits for community health.
7. Other EPHT states that have similar administrative barriers to those in Oregon might find a "county-centered" model to be a viable alternative to centralized programs such as those that are being developed in California and New York.