Issue 3

May 2004

Environmental Public Health Tracking Program
Utah Department of Health

UTAH EPARTMENT OF HEALTH

EPHTP Newsletter

Keeping EPHTP stakeholders informed.

EPHTP Pilot Projects

The EPHTP is conducting three pilot projects to achieve the following objectives:

- to build capacity in specific health department programs
- to improve services to local health department and residents
- to build partnerships for the development of the EPHTP
- to inform the process of EPHTP development.

The three pilot projects are:

- Environmental Exposures and Birth Defects in Utah
- Cancer Incidence Query Module
- Follow-up investigation of Cancer and Ground Water Contamination in Sunset and Clinton

Environmental Exposures and Birth Defects in Utah

The Utah Birth Defects Network (UBDN) was established in 1994 to monitor neural tube defects. With additional funding, the UBDN continually expanded surveillance and as of 1999, all birth defects were monitored. The UBDN also houses the Utah Center for Birth Defects Research and Prevention, one of the ten national participants in the National Birth Defects Prevention Study (NBDPS). NBDPS is one of the largest studies ever conducted on the causes of birth defects. It will provide information about environmental and genetic factors that contribute to birth defects. The goal of NBDPS is to increase our understanding of the causes of birth defects and provide information that can be used to prevent many birth defects.

By partnering with the UBDN, the EPHTP will build the capacity of the UBDN to determine factors involved in the etiology of birth defects and developing insights into primary prevention strategies. In the first phase, birth defect cases will be geocoded and predominant birth defect classes will be analyzed for spatial and temporal variances. Depending on the findings of the statistical analyses, a second phase may commence, linking relevant environmental hazard data with birth defects data. The information gained regarding environmental exposures and the associated public health consequences will be used to formulate guidelines for primary prevention and secondary prevention.

Inside this issue:

Meetings and Important Dates:

- *Technical Workgroup Meeting*
  June 22, 2004 10:00-12:00
  UDOH, Room 114
- *Planning Consortium Meeting*
  July 14, 2004 10:00-12:00
  UDOH, Room 114
- *Policy Workgroup Meeting*
  July 14, 2004 12:30-2:30
  UDOH, Room 201

Cancer Incidence Query Module

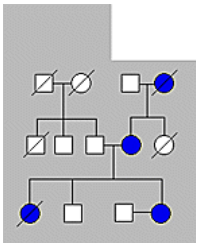
Currently, the health department response to cancer-related calls from concerned citizens is inefficient and ineffective; information from the caller needs to be collected, cancer and environmental monitoring data need to be obtained, and health education materials need to be prepared.

By partnering with Indicator Based Information System for Public Health (IBIS-PH), the EPHTP can improve the quality and timeliness of responses to cancer-related calls from concerned citizens. IBIS-PH is an innovative web-based system for disseminating public health information within a context that improves understanding of the information. The Utah EPHTP will be providing IBIS with funding to design, implement, test and deploy a web-based data query tool that will allow local and state health officials to obtain statistics on the spatial distribution of excess morbidity due to cancer incidence. With this new tool, authorized users would be able to log in using a standard web browser such as Netscape or MS Internet Explorer, without the need for installation of software on the user's local machine. This tool would allow users to tabulate cancer incidence data for small geographic areas, tabulate age-adjusted rates using the U.S. 2000 standard population, and tabulate standardized morbidity ratios using the state of Utah (minus the specific geographic area) as the standard population for all standard cancer sites. In addition, the tool would flag geographic areas with higher-than-expected cancer morbidity across multiple time periods. Help screens and contextual information will be included to help users interpret the results of their data queries. In the event that the concerns are not addressed by the query tool, a comprehensive cancer cluster investigation may be warranted.

The Cancer Incidence Query module is currently being developed and should be ready for testing by the end of June. For more information about IBIS-PH, go to www.ibis.health.utah.gov.

By partnering with Utah's IBIS-PH, the EPHTP can improve the quality and timeliness of responses to cancer-related calls.

Follow-up investigation of Cancer and Ground Water Contamination in Sunset and Clinton



The Davis County communities of Sunset and Clinton are located in northern Utah, west of the Hill Air Force Base. Groundwater contamination west of the base was discovered in 1987 that included trichloroethylene, tetrachloroethylene, carbon tetrachloride, and perchlorate.

In 2003, the Environmental Epidemiology Program concluded an investigation of cancer incidence rates as the result of a request from the Davis County Health Department regarding a perceived elevated incidence of cancer in the Sunset and Clinton communities. The residents of Sunset and Clinton were concerned that cancers in these communities may be caused by contaminated groundwater. The purpose of that investigation was to determine if cancer rates were elevated in the communities of Sunset and Clinton compared to the cancer rates for the state of Utah for the time period of 1973-1999. Although elevated rates of certain cancers were found, that investigation did not find an association or link with the cancers that were significantly elevated and the contaminants in question.

With 25 years of experience in data linkage projects, RGE is an important resource for the tracking program.

By partnering with the Utah Cancer Registry, the Resource for Genetic and Epidemiologic Research (RGE), and Hill Air Force Base, the EPHTP can extend the depth of the previous cancer cluster investigation. All cancer cases will be obtained from the Utah Cancer Registry. The RGE's Utah Population Database will be providing data on familial history and migration pattern for the study area. Hill Air Force will be providing environmental monitoring data to better characterize the plume and define its borders. With this additional data and available geocoding and spatial statistical methods, the EPHTP can examine the cancer incidence rates in Sunset and Clinton in the area of the groundwater plume versus the

residential areas not on the plume, adjusting for familial history of cancer and migration in and out of the study area. Secondarily, the pilot project will inform the process of EPHTP development in Utah. With 25 years of experience in data linkage projects, RGE is an important resource for the EPHTP. To learn more about RGE, visit www.research.utah.edu/rge.

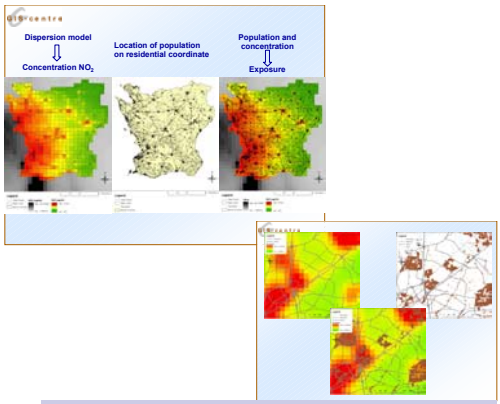
Rapid Inquiry Facility

The Rapid Inquiry Facility (RIF) is a disease and exposure-mapping tool developed by the Imperial College of London for use in the European Union (EU). The Imperial College Small Area Health Statistics unit has been working on this system as mandated by legislation in 1986 to address environmental issues. The aims of the RIF project are to improve the understanding of the links between environmental exposures, health outcomes and risk through the development of an integrated information system for the rapid assessment of relationships between the environment and health at a geo-spatial level. The RIF is intended to be a simple system with GIS linked directly to the database that could be easily accessed by partner countries using different spatially referenced datasets. The system was also designed with the intent that non-computational users could easily and rapidly run investigations to assist epidemiologists in policy-making and routine disease mapping. The RIF also includes a Bayesian hierarchical modeling approach for statistical analysis of disease/hazard analysis studies and point source investigations. These methods allow raw disease rates to be 'smoothed' to overcome problems of sparse data and provide a natural framework for incorporating common features of the data such as over-dispersion, spatial correlation, missing data, exposure measurement error and ecological bias. (*source: EUROHEIS home page (n.d.),Retrieved May 25, 2004, from http://www.euroheis.org*)

In short, the RIF system allows the user to upload geocodable environmental data and chronic disease data, and specify the time, area, and parameters to be examined. The system can then represent the data on contextual maps with relevant rates and ratios, providing a rapid assessment to specific queries.

In the EU partner countries, the RIF is presently being used for health impact assessments using exposure and disease mapping modules. The 'hazard analysis' module is used to define populations that are exposed to different pollution levels, to evaluate existing exposure response data and to examine health impacts of defined environmental exposures. The 'disease mapping' module is used to monitor health outcomes that may potentially be related to sources of environmental exposure.

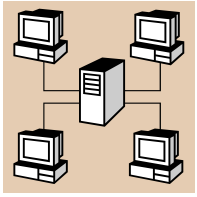
The CDC is currently negotiating with the developers of the RIF to implement the system as a pilot project in Utah. We anticipate developments in this area in the coming year and will be reporting progress during the planning consortium and workgroup meetings. For more information on RIF, visit www.euroheis.org.



Karin Larsson presentation on Exposure, Disease & Risk www.euroheis.org

Update:

Utah Technical Workgroup



The Utah Technical Workgroup (UTW) is working on the data systems that are related with EPHT network. There are four data systems that have been discussed in UTW meetings: Utah Cancer Registry, Utah Air Monitoring Ambient database, Utah Vital Records Data System and Division of Air Quality Monitoring database. The workgroup concentrates on the information about the purpose of the data system, primary users, key data sets, internal and external data exchange and any data system enhancements that will benefit the development of the EPHT network. The information gained from the data systems discussed in

the UTW meetings will help define mechanisms of integrating, exchanging, and linking environmental and health data.

In the next meeting, the workgroup will discuss the existing data models such as CDC's Public Health Conceptual Data Model (PHCDM), Public Health Information Network (PHIN) Logical Data Model, and the National Electronic Disease Surveillance System (NEDSS) Data Model. Other data models, which will be evaluated, are the Indicator Based Information System for Public Health (IBIS-PH) Data Model and the Utah Integrated Database Data Model for EPA's National Environmental Information Exchange Network (NEIEN).

For more information contact Mei Xue, EPHTP IT Analyst, at (801) 538-6191 or email: mxue@utah.gov.

Next meeting

June 22, 2004

10:00-12:00

UDOH, Room 114

Utah Policy Workgroup

The UPW is currently involved in three main activities. Firstly, members of the UPW are reviewing the draft Needs Assessment document and will be providing comments via email or the EPHTP Web Board. The Needs Assessment summarized training needs, technological limitations, funding constraints, and environmental and health priorities. The priority health concerns identified were asthma birth defects, and cancer; whereas the priority environmental concerns were found to be air pollution, water quality and heavy metals.

Secondly, the UPW continues to assess the feasibility of using Environmental Public Health Indicators (EPHI) in the EPHTP. EPHI are measures that may be used to assess baseline status and trends, track program goals and objectives, and build core surveillance capacity in state and local agencies. The best indicators are those that reliably predict the relationship between human health and the environment, are routinely collected, and have well-accepted definitions and data collection standards. The workgroup is following a seven-step framework developed by the CDC and will report progress of the feasibility study in the next planning consortium meeting.

Lastly, the UPW is defining the various classes of EPHTP users; this information will help the Utah Technical Workgroup (UTW) in determining the level of information accessible to different audiences of the EPHTP. To define the EPHTP user classes, the UPW will first define the roles and responsibilities for the stakeholders involved with the EPHTP. This activity will continue in the next UPW meeting and results will be shared with the UTW.

For more information contact Kori Gunn, EPHTP Community Health Specialist, at (801) 538-6191 or email: kgunn@utah.gov.

Next meeting

July 14, 2004

12:30-2:30

UDOH, Room 201

National EPHTP News

CDC formed four workgroups to engage in issues common to all EPHT grantees and to ensure network development coincides with the vision and goals of the national EPHT initiative. The workgroup members consist of representatives from the CDC and each of the participating states, cities, and schools of public health. Following are updates from the Utah representatives on each of the workgroups:

Legislation and Partner Agreement Workgroup (Utah representative: Wayne Ball)

The purpose of the Legislative workgroup is to provide grantees with tools to promote legislation in the various states dealing with Environmental Public Health Tracking. The workgroup's task was to develop a "Bill Writer's Tool Kit," a guideline to help grantees develop legislation to promote and facilitate

facilitate the development of the EPHT Network. The task of the Legislation and Partner Agreement Workgroup has been completed and the workgroup has been dissolved.

To obtain a copy of the Bill Writers Tool Kit contact Sharon Ball at (801) 538-6191 or smball@utah.gov.

Data Linkages Workgroup (Utah representative: Gambrelli Layco)

The purpose of Data Linkages workgroup is to compile lessons learned from examples of data linkages in the literature and summarize recommendations in a written report to be used by CDC and other EPHT grantees.

The Data Linkage workgroup has completed the final report. Recommendations include the development of standards and guidance documents for the EPHT Network; gather information from previous or existing efforts; conduct special research in the areas of surveys, exposure assignment methods, and data quality; and form and maintain partnerships. The task of the Data Linkages workgroup has been completed and the workgroup has been dissolved.

For more information on the Data Linkage Report contact Gambrelli Layco at (801) 538-6191 or glayco@utah.gov.

Program Marketing Workgroup (Utah representative: Kori Gunn)

The purpose of the Program Marketing workgroup is to clarify, communicate, and promote the purpose, goals, objectives, and timelines of the national EPHT Network. The Program Marketing workgroup was subdivided into four subgroups: Stakeholder Identification, Existing Materials Search/Review, Message Mapping, and Communication Planning. The tasks of the Stakeholder Identification workgroup, Existing Materials Search/Review, and Message Mapping workgroup have been completed and the subgroups have been dissolved. The Message Mapping subgroup is integrating stakeholders' information and materials, and building an Environmental Public Health Network resource library; the library will be accessible to stakeholders via the Internet. The task for the communication planning subgroup will be to develop a communication plan for the EPHT Network.

Standards and Network Development Workgroup (Utah representative: Mei Xue)

The Standards and Network Development Workgroup (SNDW) is composed of four subgroups: the Network Architecture Subgroup, the Data Sharing/Access Subgroup, the Metadata and Data Quality Subgroup and the Geography/Locational Reference Subgroup.

The mission of the SNDW is to work with CDC and its contractors to identify standards, define terms, and ensure compatibility with the Public Health Information Network (PHIN) and the EPA's National Environmental Information Exchange Network (NEIEN). The workgroup is focusing on clarifying preliminary network assumptions such as network architecture, addressing network security of the EPHT Network, addressing the EPHT Network's ability to identify, exchange, and link health and environmental data, and addressing the EPHT Network's ability to provide quality data.

The SND workgroup is developing the Principles, which are tested to withstand scrutiny and become recommendations when completed, and EPHTN Technical Glossary. The workgroup also works with CDC's contractor Science Applications International Corporation (SAIC) to develop the EPHTN Vision document that describes, at a high level, the features the EPHTN in order to gain consensus among the many stakeholders about the direction of the information systems that will support the EPHT Program and to provide a profile of the stakeholders and users of the Network.

Products for Technology Group (Utah Representative: Mei Xue)

University of California at Berkley (UCB) organized the Products for Technology workgroup for the Western state grantees in the Environmental Public Health Tracking Network. Members in this group include participants from CA, MT, NM, NV, OR, UT, UCB, and CDC. This group evaluates commercially available software and hardware, identifies issues involved in selecting appropriate products, and provides information that is useful to states making decisions in the context of the EPHT Network. The group has identified eight key focus areas for review and discussion: (1) Pulse of the system, (2) Database capabilities and third party products for data extraction and transmission, (3) Data warehousing, (4) Data mining, (5) Platforms, (6) Security, authentication and third party identification, (7) Geographic Information System and (8) Data analysis.

Check out the EPHTP Web board
https://ephtp.intranets.com

In the next EPHTP Newsletter:

1. *Updates from the Technical and Policy Workgroups meetings.*
2. *Updates from the Planning Consortium Meeting.*
3. *Updates on pilot projects*

Utah Department of Health

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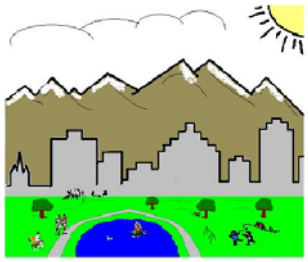
Stakeholders are invited to attend the national EPHT meeting to be held in San Francisco in October 2004. Please submit any agenda items to EPHTP staff.



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Training Opportunities

Geographic Information Systems (GIS) Training
Environmental Systems Research Institute (ESRI), the developers of the GIS Software, ArcView, offer a variety of training options. Instructor-led GIS courses are offered in various locations according to a schedule, which can be found at http://www.esri.com/training/index.html. These courses are taught by ESRI staff. Limited online courses are also available online at http://campus.esri.com/index.cfm?CFID=529093&CFTOKEN=72747877.

The state of Utah's Automated Geographic Reference Center (AGRC) also offers GIS training led by ESRI-certified AGRC staff. Courses are taught at the State Capitol building in a format combining lectures and hands-on exercises. For more information on registration, training schedules, and course fees, contact the AGRC at: http://agrc.utah.gov/index.html.

ESRI invites you to attend a free, one-day seminar in Salt Lake City to learn about ArcGIS 9, the next major release of ArcGIS.

Location: Sheraton City Center Hotel
150 W 500 S
Salt Lake City, UT 84101
Site: Sheraton City Center Hotel

To register, go to: http://gis.esri.com/events/index.cfm?fuseaction=seminarRegForm&shownnumber=7136