

Johns Hopkins University
Center of Excellence in Environmental Public Health Tracking
EPHT Methods Training Course
July 26-29, 2004

OVERVIEW

Day 1: Monday, July 26

- Module 1 – Why? Overview of Environmental Public Health Tracking
 - 1A: Background and Overview of EPHT
 - 1B: Principles and Practice of Public Health Surveillance
- Module 2 – What to Track?
 - 2A: Stakeholder Engagement: A New York City Example
 - 2B: Identifying Priority Topic Areas: Finding the Common Ground
 - 2C: Indicator Development and Selection Criteria
- Module 3 – How to Track? Part 1
 - 3A: Data Management and Storage
 - 3B: Interactive Discussion on Data Inventories

Day 2: Tuesday, July 27

- Module 4 – How to Track? Part 2
 - 4A: Introduction to Environmental Epidemiology
 - 4B: Case Study of Data Collection and Management
 - 4C: Data Analysis, Presentation, Interpretation
- Module 5 – What to do with Results?
 - 5A: Translation of Information for Policy and Prevention

Day 3: Wednesday, July 28

- Module 6 – Methods for Tracking
 - 6A: Using Epidemiological Data for Tracking
 - 6B: Descriptive Epidemiology for Environmental Surveillance
 - 6C: Biostatistics for Environmental Surveillance
 - 6D: Case Study of Data Analysis
 - 6E: Using Available Data for Exposure Assessment

Day 4: Thursday, July 29 (OPTIONAL)

- Introduction to Air Pollution Epidemiology
- Special Session for Time Series and Case-Crossover Analysis
(With Emphasis on Applications for Air Pollution Epidemiology)

Note: This optional session requires pre-requisite knowledge of intermediate epidemiological methods, biostatistics and experience with statistical computer programming

8:00-8:30 AM	Continental Breakfast – To Be Provided
8:30-9:15 AM	Module 1A: Overview of EPHT (Dr. Thomas Burke) Background and Significance (Thacker Model, Pew) EPHT Competency Domains
9:15-10:15 AM	Module 1B: Principles of Surveillance (Dr. Jim Tielsch) Identify objectives of surveillance system Evaluation of quality and utility of potential data sources
10:15-10:30 AM	BREAK
10:30AM-12 PM	Module 2: What to track?
10:30-11:15 AM	Module 2A: Stakeholder Engagement – A New York City Example (Ms. Michelle Chuk) Gathering Stakeholder Input Communicating & Disseminating Information Effectively
11:15AM – Noon	Module 2B: Identifying Priority Topic Areas – Finding the Common Ground (Ms. Beth Resnick) Topics of Environmental Public Health Importance
12:00-1:00 PM	LUNCH – To Be Provided
1:00 – 2:30 PM	Module 2: What to track? (continued) Module 2C: Indicator Development and Selection Criteria (Ms. Kristen Chossek-Malecki) What makes a good indicator? (adapted from CSTE) Limitations and benefits of working with indicators Goals and opportunities
2:30-3:00 PM	BREAK
3:00-4:30 PM 3:00-3:45 PM	Module 3: How to Track? Part 1 Module 3A: Data Management/Storage (Dr. Adrienne Ettinger) Information Systems & Technology Design of surveillance information system Standardization and issues for linkage
3:45-4:30 PM	Module 3B: Interactive Discussion on Data Inventories
4:30 PM	ADJOURN for Day 1
6:00-8:00 PM	Group Dinner to be hosted by Johns Hopkins COE Captain James Crab Landing – Maryland crabs on the water! <i>Corner of Aliceanna and Boston Streets, across the street from the Captain James Restaurant at 2127 Boston Street, Canton (tel. 410-327-8600)</i>

DAY 2: Tuesday, July 27, 2004 Wolfe St. Building Room W1020

8:00-8:30 AM	Continental Breakfast – To Be Provided
8:30-10:00 AM	Module 4A: How to Track? Part 2 (Dr. Adrienne Ettinger) Introduction to Environmental Epidemiology
10:00-10:15 AM	BREAK
10:15AM-12 PM	Module 4B: <i>Case Study of Data Collection and Management</i> Presentation – 45 minutes (Speaker: Jerry Fagliano, NJ) Discussion – 1 hour
12:00-1:00 PM	LUNCH – To Be Provided
1:00-2:30 PM	Module 4C: How to Track? Part 2 continued (Speaker: Dr. Norma Kanarek) Data Analysis, Presentation, and Interpretation How “Tracking” Informed the Maryland Cancer Plan
2:30-3:00 PM	BREAK
3:00-4:30 PM	Module 5A: What to do with results? (Dr. Lynn Goldman) Translation of information for intervention/prevention policies
4:30 PM	ADJOURN for Day 2

8:00-8:30 AM	Continental Breakfast – To Be Provided
8:30-9:30 AM	Module 6A: Methods for Tracking – Part 1 (Dr. Jonathan Samet) Using Epidemiological Data to Set Air Quality Standards and Track their Consequences
9:30-10:30 AM	Module 6B: Methods for Tracking – Part 2 Descriptive Epidemiology - 1 hour (Dr. Joseph Abraham) 1. Person, Place, Time 2. Rates and Ratios
10:30-10:45 AM	BREAK
10:45AM- 12PM	Module 6C: Methods for Tracking – Part 3 Biostatistics for Surveillance (Dr. Francesca Dominici) 1. Temporal Methodologies 2. Spatial Methodologies
12:00-1:00 PM	LUNCH – To Be Provided
1:00-2:30 PM	Module 6D: Case Study of Data Analysis Using NHANES (Dr. Ana Navas-Acien)
2:30-3:00 PM	BREAK
3:00-4:30 PM	Module 6E: Methods for Tracking – Discussion Using Available Datasets to go from Emissions to Exposure Presentation – 30 minutes (Dr. Thomas Burke) Discussion – 1 hour
4:30 PM	ADJOURN for Day 3

DAY 4: Thursday, July 29, 2004 (optional)

Hampton House

Special Session for Time Series and Case-Crossover Analysis

(With Emphasis on Applications for Air Pollution Epidemiology)

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| 8:00-8:30 AM | Continental Breakfast – To Be Provided |
| 8:30-9:30 AM | Introduction to Air Pollution Epidemiology (Dr. Scott Zeger)
Including limitations of time series/case-crossover analysis <ul style="list-style-type: none">• Acute vs. chronic effects• Control of time-dependent confounding |
| 9:30-10:30 AM | Goals of time series analysis (Dr. Thomas Bateson)
1) Modeling
2) Forecasting
Identifying Patterns in Time Series Data <ul style="list-style-type: none">1) Trend<ul style="list-style-type: none">• Smoothing (local averaging)• Fitting a function2) Seasonality<ul style="list-style-type: none">• Autocorrelation• Lags Control for confounding, Sensitivity Analysis
Poisson regression |
| 10:30-10:45 AM | BREAK |
| 10:45 AM-12 PM | Goals of case-crossover analysis (Dr. Thomas Bateson)
Control of confounding (individual-level, non-time dependent), and effect modification; Requires no specific assumptions about the longitudinal structure of the data
Case-only design, Referent selection strategy
Unidirectional, Bidirectional
Carry-over effects
Conditional logistic regression |
| 12:00-1:00 PM | LUNCH – To Be Provided |
| 1:00-4:30 PM | Computer Lab (Dr. Thomas Bateson)
Computer packages: <i>SPLUS</i> , <i>R</i> , <i>STATA</i>
Comment on convergence problems (defaults in <i>SPLUS</i>)
Generalized additive models
GAM vs. GLM |
| 4:30 PM | ADJOURN for Day 4 |