Abstract Submission for

Environmental Public Health Tracking Workshop
October 13-15, 2004
San Francisco, California

Title: Linking exposure and health data in a rural state lacking a centralized hospital data reporting system

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Topic: Selection and evaluation of data sets for linkage studies

ABSTRACT

Title: Accessing health data in a state with no centralized system for hospital data

Keywords: hospital, clinic, surveillance

Background: The State of Montana does not have an existing system for the capture of hospital discharge data or emergency department data at present. Health care providers in the state use several different medical records systems with varied periods of implementation.

Objective: This pilot study was designed to identify and capture electronically-available data from hospitals and clinics that service the western Montana area. The study also identified strategies for, and barriers to, the establishment of a system for state-wide collection of electronically-available health outcome data.

Methods: Patient visits were requested from hospitals and clinics servicing three areas in western Montana. Data use agreements were established with health care providers. Health data for a four-year period were consolidated with ambient PM2.5 and meteorological data in a SQL database with Microsoft Access front end.

Results: The hospital and clinic IT personnel experienced varying degrees of difficulty in fulfilling the initial data request, but follow-up data requests were easily handled.

Over 100,000 hospital patient visits were captured. Over 700,000 clinic visits were captured, but these represented scheduled visits only. Linkage with existing PM2.5 data necessitated refining the study areas evaluated for health outcome data.

Conclusion: Hospital/clinic IT personnel are adept at handling complex data requests from newly-adopted medical records systems. The capture of scheduled clinic visits may be less useful for evaluating linkage of environmental data with episodic health events, but may still be useful for public health surveillance purposes.

Interpretation: Developing a state-wide ongoing, systematic reporting of health care provider data will initially require a significant effort in communicating with hospital/clinic IT personnel and administrators. Once established, periodic data requests would be relatively easy for IT personnel to fulfill. Environmental data that can be applied to only small geographic areas in the mountainous regions of the state may be a limiting factor in the application of health data to environmental public health tracking.