Dataset Description
Portland (1998-2000) and Manchester (1996-2000) ER data

The dataset is available as a Microsoft Excel workbook with each city on a different sheet. Each row represents measurements from one day, labeled by date in the first column. Each column is a different variable, labeled in the first row. For example, the first few columns are temporal (date, season, day of week, etc.). The next few are outcome variables (such as the number of asthma admittances per day). The rest of the columns are predictor variables (such as ozone, temperature, and synoptic air mass type). Below is a description of each column.

Data compiled by Adam Wilson (Adam.Wilson@alumni.unh.edu), UNH 2003.

Temporal Variables

Date

　　　　Date in Excel-Date format

Weekday

　　　　Day of the week: Sunday = 1, Monday = 2, . . . Saturday = 7

Year

　　　　Year

Season

　　　　Dec–Feb= 1, Mar-May = 2, Jun-Aug= 3, Sept–Oct =4

DayofStudy

　　　　Starts with 1 on day 1 and increases to last day of dataset. Used in place of date in modeling.

Counts of ER visits

Data Source

Manchester ER data were collected by the individual hospitals and reported to the NH Department of Health and Human Services. Data were provided by the Manchester Health Department: http://www.ci.manchester.nh.us/CityGov/HLT/Home.html.

Portland data were collected by the individual hospitals and reported to the Maine Hospital Association. Data were provided by the Public Health Research Group: http://www.phrg.com/

Data are daily counts of visits for certain diagnosis. Counts were limited to individuals residing and visiting an ER facility within the respective Hospital Service Area (HSA). Counts are provided for all ages and broken into three age groups.

Variables and the corresponding ICD-9 codes:

Label	Description	ICD-9 Codes
Asthma	Asthma	493
AllResp	All Respiratory reasons	460-519
Flu	Influenza	487
Gastro	Gastroenteritis	558
Ischaemic	Ischaemic heart disease	410-413
CVD	Cardiovascular Disease	430-436
Symptoms	Respiratory Symptoms	786
HeartFail	Heart Failure	428
Bronchitis	Chronic & Acute Bronchitis	490-491
Emphysema	Emphysema	492
COPD	Chronic Obstructive Pulmonary Disease	490-496

Some diagnosis codes are only available for Portland data.

Suffix

.All = All ages
.0.14 = Ages 0-14
.15.64 = Ages 15-64
.65 = Ages 65 and above

Towns included in Hospital Service Areas (HSAs):

Manchester	
Zipcode	**Town**
03037	Deerfield
03045	Goffstown
03111	Manchester
03110	Bedford
03109	Manchester
03070	New Boston
03036	Chester
03034	Candia
03103	Manchester
03101	Manchester
03108	Manchester
03102	Manchester
03107	Manchester
03104	Manchester
03105	Manchester
03106	Hooksett
03032	Auburn

Portland	
Zipcode	**Town**
04024	Baldwin
04107	Cape Elizabeth
04015	Casco
04017	Cumberland
04105	Falmouth
04038	Gorham
04039	Gray
04050	Long Island
04097	North Yarmouth
04101	Portland
04069	Pownal
04071	Raymond
04070	Scarborough
04024	Sebago
04106	South Portland
04084	Standish
04092	Westbrook
04062	Windham
04096	Yarmouth
04068	Porter
04004	Buxton
04020	Cornish
04004	Hollis
04048	Limerick
04049	Limington
04028	Parsonsfield
04087	Waterboro

Manchester Hospitals: CMC, Eliot

Portland Hospitals: NE Rehab, Westbrook Community Hospital, Mercy Hospital, Maine Medical Center, Southern Maine Medical Center.

Air Quality Data

Data Source

Data were collected by the state environmental departments (Department of Environmental Protection in Maine, and Department of Environmental Services in New Hampshire) and reported to the U.S. EPA. Data were provided from the EPA AIRS database: http://www.epa.gov/air/data/

Blank cells are missing data.

Variables

O_3 = ozone in ppbv
SO_2 = Sulfur dioxide in ppbv
PM25= Particulate matter with an aerodynamic diameter < 2.5 μm

Suffix

.Max8 = Maximum 8 hour average recorded in a day (Ozone only)
.Max = Maximum hourly average
.1Day = 24-hour average
.2Day = 48-hour average (same day and prior one day)
.3Day = 72-hour average (same day and prior two days)
.4Day = 96-hour average (same day and prior three days)
.5Day = 120 hour average (same day and prior four days)
.L1 = 24-hour average of previous day (lag 1)
.L2 = 24-hour average of two days prior (lag 2)
.L3 = 24-hour average of three days prior (lag 3)
.L4 = 24-hour average of four days prior (lag 4)
.L5 = 24-hour average of five days prior (lag 5)

Meteorological Data

Data Source

Data were provided by the National Oceanic and Atmospheric Administration's National Climatic Data Center: http://www.ncdc.noaa.gov/oa/ncdc.html

Portland data are from the Portland meteorological site. Manchester data are from the meteorological monitoring station in Concord, NH, about 30 kilometers to the north. This data was more continuous and of better quality than the Manchester data.

Blank cells are missing data.

Variables

Tmax	Maximum recorded temperature in degrees Centigrade
Tmean	Average of maximum and minimum temperatures
Tmin	Minimum recorded temperature in degrees Centigrade
DP	Dewpoint in degrees Centigrade
SLP	24-hour average sea level pressure in millibar
RHMax	Maximum recorded relative humidity (%)
RHMin	Minimum recorded relative humidity (%)
RHAve	Average of maximum and minimum relative humidity (%)
Synoptic	Synoptic air mass classification as defined by Kalkstein's Spatial Synoptic Classification:

1 = dry moderate
2 = dry polar
3 = dry tropical
4 = moist moderate
5 = moist polar
6 = moist tropical
7 = transition
0 = day missing
For more information, see:
dept.kent.edu/geography/sheridan/ssc.html

Lightning	Presence of lightening as recorded in the 'Summary of the Day' as 'presence of thunder' in the surrounding area. This probably misses much lightening activity in the area.
PPT	24-hour total precipitation in centimeters (cm)
PPT.F	1 = Precipitation that day 0 = No precipitation that day

Suffixes are the same as the air quality data