Appendix F:
Data sources for characteristics that increase the risk of heat-related illnesses

Data sources for characteristics that increase the risk of heat-related illnesses

Т his document provides a list of data sources for identifying a community's vulnerable populations and risk factors associated with extreme heat events. The vulnerability and risk characteristics have been selected from a thorough literature review and categorized into three areas: 1) demographic characteristics, 2) social/behavioral factors and 3) geographic/locational factors.

Each characteristic has two sets of data sources: 1) data that has already been summarized at the county level, and 2) data that is still raw or not compiled by meaningful geography, but potentially provided at smaller geographies for making GIS maps or creating unique summaries. The data sources for the characteristics are based on best practices and are current as of the time of this writing, April 2012. Local communities may have their own local knowledge or data sources that are not included in this review. This list provides initial guidance on where to find data from large, standard data sources and is not comprehensive of all data sources that may be available to a particular jurisdiction.

For questions about identifying vulnerable populations in your area, contact the Minnesota Department of Health's Climate & Health team at health.climatechange@state.mn.us.

Characteristic	County-Summarized Data	Raw/Non-summarized Data
Demographic characteristics		
Elderly: persons 65 years old and older	1. Minnesota County Health Tables, Demographics Table 3: Selected Minnesota Population Statistics, *Population 65+ years* 2. Minnesota Compass, Population age 65+ by county (projects data to 2030; only for 7-county metro area)	Data is available through the U.S. Census Bureau's American FactFinder 1. 2000 Census SF1: 'Age Groups and Sex: 2000' (ID: QT-P1) 2. 2010 American Community Survey 5-year Estimates: 'Age and Sex' (ID: S0101) 3. 2010 Census SF1: 'Age Groups and Sex: 2010' (ID: QT-P1)
Children: persons less than 5 years old	Minnesota County Health Tables, Demographics Table 1: Minnesota Population Estimates, 2010, *Age Group 00-04*	Data is available through the U.S. Census Bureau's American FactFinder 1. 2000 Census SF1: 'Age Groups and Sex: 2000' (ID: QT-P1) 2. 2010 American Community Survey 5-year Estimates: 'Age and Sex' (ID: S0101) 3. 2010 Census SF1: 'Age Groups and Sex: 2010' (ID: QT-P1)
Economically constrained: persons living at or below poverty line[1], and persons living at or below 200% of poverty	1. Poverty: MDH Vital Statistics Trend Report 1991-2010, *Percent of All Ages Living in Poverty* 2. 200% of Poverty: Minnesota County Health Tables, 2011, Demographics Table 6: Selected Minnesota Socioeconomic Statistics by State and County, *Percent of people of all ages living at or below 200% of poverty*	Data is available through the U.S. Census Bureau's American FactFinder 1. 2000 Census SF3: Poverty Status in 1999 of individuals: 2000 (ID: QT-P34) 2. 2010 American Community Survey 5-year Estimates: 'Poverty Status in the Past 12 Months' (ID: S1701)

[1] Population below the poverty level. Poverty threshold is determined by the U.S. Census Bureau, and is adjusted for inflation but does not vary geographically. Therefore the income threshold for poverty is the same nation-wide and does not consider local variation in cost-of-living. Data is compiled nationwide by the U.S. Census Bureau.

Characteristic	County-Summarized Data	Raw/Non-summarized Data
Demographic characteristics (cont.)		
Low socioeconomic status: educational attainment	1. Minnesota County Health Tables, Demographics Table 6: Selected Minnesota Socioeconomic Statistics by State and County, Percent of Population aged 25 years and older with less than or equal to high school education or equivalent (e.g., GED) 2. Minnesota Compass, High School Graduation, Breakdown: by county (map), 7-county metro area only	Data is available through the U.S. Census Bureau's American FactFinder 1. 2000 Census SF3: 'Educational Attainment by Sex: 2000' (ID: QT-P20) 2. 2010 American Community Survey 5-year Estimates: 'Educational Attainment' (ID: S1501)
Persons with pre-existing diseases or mental health conditions	1. Asthma: Minnesota Public Health Data Access 2. Diabetes: 　a. CDC Diabetes Data & Trends 　b. National Environmental Public Health Tracking Network Reporting Tool, Search Data, Climate Change, Heat Vulnerability, Age-adjusted, estimated percent of adults >= 20 years with diagnosed diabetes 　c. Local Surveys (see list of local surveys in Additional Information Regarding the Data Sources on page E-5) 3. Cardiovascular/Heart Disease: 　a. CDC Heart Disease & Stroke Maps 　b. Heart Attack Hospitalizations: Minnesota Public Health Data Access 　c. Local Surveys, page E-5	1. CDC Behavioral Risk Factor Surveillance System (BRFSS) Data only available at Metropolitan Statistical Area, or county level for Hennepin, Anoka, Dakota, and Ramsey counties. Indicators include: Asthma, Cardiovascular Disease, and Diabetes. 2. Local Surveys (see list of local surveys in Additional Information Regarding the Data Sources on page E-5)
Persons on certain medications	Data not available	Data not available
Social/Behavioral factors		
Social isolation: Elderly living-alone[2]	1. Minnesota County Health Tables, Demographics Table 4: Percent of households in which the resident is 65 and over and living alone 2. Minnesota Department of Human Services: Living Alone Age 65 and Older by Household, Householder and County	Data is available through the U.S. Census Bureau's American FactFinder 1. 2000 Census SF1: 'Relationship by Household Type for the Population 65 Years and Over' (ID: P030) 2. 2010 American Community Survey 5-year Estimates: 'Relationship by Household Type (Including Living Alone) for the Population 65 Years and Over' (ID: B09017) 3. 2010 Census SF1: 'Household Type by Relationship for the Population 65 Years and Over' (ID: P34)
Prolonged exposure to sun	Minnesota Department of Employment and Economic Development Local Employment Dynamics – State of Minnesota county reports of quarterly workforce indicators. Data is searchable by county, industry, year, quarter, age, and education.	Minnesota Department of Employment and Economic Development Local Employment Dynamics – State of Minnesota county reports of quarterly workforce indicators. Data is searchable by county, industry, year, quarter, age, and education.

[2] Elderly living-alone are age 65 and older, living in non-family households, alone. Data is compiled nationwide by the U.S. Census Bureau.

Characteristic	County-Summarized Data	Raw/Non-summarized Data
Social/Behavioral factors (cont.)		
Use of alcohol	1. CDC Behavioral Risk Factor Surveillance System (BRFSS) SMART City and County Data, Alcohol Consumption. (Data only available at the county level for Hennepin, Anoka, Dakota, and Ramsey counties.) 2. Local Surveys (see list of local surveys in Additional Information Regarding the Data Sources on page E-5)	1. CDC Behavioral Risk Factor Surveillance System (BRFSS) SMART City and County Data, Alcohol Consumption. (Data only available at the county level for Hennepin, Anoka, Dakota, and Ramsey counties.) 2. Local Surveys (see list of local surveys in Additional Information Regarding the Data Sources on page E-5)
Geographic/Locational factors		
Living in urban areas	1. University of Minnesota – Statewide Land Use and Cover (2000), interactive map by county or city and township. 2. Percent of developed land use: National Environmental Public Health Tracking Network Reporting Tool, Search Data, Climate Change, Heat Vulnerability, Percent of developed land use 3. Percent of forest canopy: National Environmental Public Health Tracking Network Reporting Tool, Search Data, Climate Change, Heat Vulnerability, Percent of forest canopy	1. The Minnesota Geospatial Information Office, MNGeo Clearinghouse, GIS land cover data, *Impervious surface, Twin Cities, 2000* 2. The U.S. Geologic Survey and U.S. Department of the Interior, National Land Cover Database (NLCD) for 1992, 2001, and 2006 of rasterized GIS data that covers the entire nation. Multi-Resolution Land Characteristics Consortium (MRLC) (main page) NLCD2006: Percent Developed Imperviousness
Lack of air conditioners	Contact local city or county Assessors Offices for parcel data	1. American Housing Survey (only available at the Metropolitan level) 2. Contact local city or county Assessors Offices
Living in top floor apartments	Contact local city or county Assessors Offices for parcel data	1. Met Council Data Finder Land Ownership, Parcel datasets (for the 7-county metro area only) 2. Contact local city or county Assessors Offices for parcel data outside 7-county metro, or for counties or municipalities that do not include units in the regional dataset
Living in nursing homes/bedridden	1. County Level Data: Minnesota Department of Health directory of licensed, registered or certified health care providers 2. City Level Data: Minnesota Department of Health directory of licensed, registered or certified health care providers	1. Met Council Data Finder Land Ownership, Parcel datasets (for the 7-county metro area only) 2. Contact local city or county Assessors Offices for parcel data outside 7-county metro, or for counties or municipalities that do not include units in the regional dataset

Additional Information Regarding the Data Sources:

Local Surveys

Some Minnesota Counties have conducted local surveys that may provide data for these indicators. Listed below are the local surveys that were most recently conducted along with the counties in which results are available.

Local Survey Websites

Bridge to Health 2005 and 2010

Results for Aitkin County, Carlton County, Cook County, City of Duluth, Itasca County, Koochiching County, Lake County, Pine County, St. Louis County, St. Louis County without Duluth

Southwest South Central Adult Health Survey 2010

Results for Big Stone County, Blue Earth County, Brown County, Chippewa County ,Cottonwood County ,Jackson County, Kandiyohi County, Lac qui Parle County, Le Sueur County, Lincoln County, Lyon County, Murray County, Nicollet County, Pipestone County, Redwood County, Renville County, Swift County, Waseca County, Yellow Medicine County

Metro Adult Health Survey 2010

Results for Anoka County, Carver County, Dakota County, Ramsey County, Scott County, Washington County

Survey of the Health of All the Population and the Environment (SHAPE) 1998, 2002, 2006, 2010

Results for Hennepin County

For Other Counties: 2010 MCHT, Morbidity and Utilization Tables 11 and 12

If your county is not listed, you can go to the Minnesota County Health Tables (MCHT) website listed above for synthetic estimates of selected risk behaviors. Note that synthetic estimates are statewide estimates (percentages) from the BRFSS that are statistically adjusted using the age and sex distributions for each county. These estimates indicate the percentage of adults at risk for a particular health behavioral risk factor in a county given 1) the statewide percentage for that behavior and 2) that county's age and sex composition. These estimates do not indicate the percentage of adults in that county who actually engage in the risk behavior.

Decennial Censuses: 2000 & 2010

The decennial census is the only data gathering operation in the United States that is mandated by the Constitution. The first census was taken in 1790 and it occurs every 10 years, in the years ending in "0". Its primary purpose is to provide the population counts that determine how seats in the U.S. House of Representatives are apportioned. Census figures also are required to draw congressional and state legislative district boundaries, to allocate federal and state funds, to formulate public policy, and to assist with planning and decision making in the private sector.

The 2000 Census Short-Form and 2010 Census are actual counts of the U.S. population. The survey reaches every home and asks seven questions for each household: name, sex, age, relationship, Hispanic origin, and race for every individual in the household, and whether the housing unit was owned or rented. Data is available at geographies as small as Census Blocks. In past decades, a percentage of households (17% in 2000) received the Long-Form survey which included additional questions regarding income, educational achievement, ancestry, mortgage, and size of housing unit. Data is available at geographies as small as Census Block Groups. Since the 2000 Census, the Long-Form data is now being collected through the American Community Survey on an annual basis. (See American Community Survey for more details.)

Data available for download here: http://factfinder2.census.gov/

(Source: U.S. Census Bureau http://www.census.gov/main/www/cen2000.html)

American Community Survey 5-year Estimates

The American Community Survey (ACS) collects and produces population and housing information every year instead of every ten years. Collecting data every year provides more up-to-date information throughout the decade about the U.S. population at the local community level. About three million housing unit addresses are selected annually, across every county in the nation.

Single-Year Estimates

The ACS produces 1-year estimates annually for geographic areas with a population of 65,000 or more. This includes the nation, all states and the District of Columbia, all congressional districts, approximately 800 counties, and 500 metropolitan and micropolitan statistical areas, among others.

Multiyear Estimates

The ACS produces 3-year and 5-year estimates annually for geographic small areas (down to Census Block Groups), areas with a population of 20,000 or more, including the nation, all states and the District of Columbia, all congressional districts, approximately 1,800 counties, and 900 metropolitan and micropolitan statistical areas, among others.

The Census Bureau collects ACS data from a sample of the population in the United States and Puerto Rico--rather than from the whole population **All ACS data are survey** *estimates*. To help you interpret the reliability of the estimate, the Census Bureau publishes a margin of error (MOE) for every ACS estimate. American Community Survey 1-, 3-, and 5-year estimates are period estimates, which means they represent the characteristics of the population and housing over a specific data collection period. Data are combined to produce 12 months, 36 months or 60 months of data. These are called 1-year, 3-year and 5-year data.

Guidance for comparing 1-year, 3-year and 5-year American Community Survey estimates with Census 2000 and Census 2010, see here: http://www.census.gov/acs/www/guidance_for_data_users/comparing_data/

Data available for download here: http://factfinder.census.gov/home/saff/aff_transition.html

(Source: U.S. Census Bureau http://www.census.gov/acs/www/)

American Housing Survey

The American Housing Survey provides up-to-date information on the size and composition of the housing inventory in the United States. As the country grows, so does the demand for housing. There is a great need for information about the types of homes in which people are now living and the characteristics of these homes, as well as the costs of running and maintaining them. Minneapolis-St. Paul, MN-WI Metropolitan Statistical Area was surveyed in 1998 and 2007. Data is available here: http://www.census.gov/hhes/www/housing/ahs/metropolitandata.html

Unlike city assessors' data, the American Housing Survey collects data on both central air conditioning and window/room units. According to the AHS Frequently Asked Questions, in 2007, 70,397,000 homes or 63.6 percent of all occupied homes in the United States had central air conditioning; another 22.8 percent had room units.

(Source: American Housing Survey http://www.census.gov/hhes/www/housing/ahs/ahsfaq.html)

Extreme Heat Toolkit