Limits and Caveats

When using secondrary data, ask the following questions:

- Is the sample representative of the general population? Usually, data are not collected from 100% of the people you are interested in studying. This is too expensive. Instead, data are collected from a smaller group, or a "sample" of people. To have confidence in sample data, the sample needs to "look like" or be representative of the general population.
- Who was included in the study and who was excluded? If only people enrolled in community education classes were surveyed, then you can only draw conclusions about people who were enrolled in the classes. There may be something special about the people attending the class (perhaps they live mostly in one part of town, or have more interest in the subject matter). Therefore, their opinions may not mirror the opinions of the rest of the population.
- Is the data item under-reported? For example, the Department of Public Safety (DPS) notes that for non-fatal traffic crashes, only the officer's perception of possible alcohol involvement is used to classify the crash as alcohol-related or not. Blood alcohol tests are not available. DPS recognizes and notes that this lack of information causes the reported number of non-fatal alcohol-related crashes to be significantly lower than the true number.
- Who are the experts on this information? If you are getting data from other sources, read their reports or ask them questions about the data. They will be able to tell you the strengths and limitations of the data.

Trends in substance use and consequences can be influenced by:

- Small numbers of events: such as homicide or cirrhosis deaths—a change from one death in a given year to two deaths would be a 100% increase!
- Changes in data collection methods: a change in the way the data are collected can alter the answers gathered. For example, if a high-school student survey is administered in the fall one year and in spring the next, rates of reported alcohol use may be higher in the second year due to prom.
- Changes in how problems are defined: trends in driving while impaired (DWI) are affected by the change in the definition of the legal drinking age. In 1973, the legal drinking age was 18; in 1976, it was raised to 19; and in 1986, the drinking age was raised to 21.
- Changes in cultural context: trends may be influenced by changes in social/political norms, laws, organizational policies, and/or attitudes and beliefs of teachers, physicians and police officers.

For example: the rate of reported cases of fetal alcohol syndrome (FAS) among newborns in the United States during 1979-1992 increased approximately fourfold. The increase may reflect a true increase in the number of infants with FAS, or an increase in the awareness and diagnosis of FAS in newborns.

Understand where the data came from, and ask questions. A dataset doesn't have to be without limits or caveats to be of use, just be sure to understand the limits and caveats and make note of them!