

#4 School Survey

Purpose

To help students develop a survey to identify the prevalence of asthma in their school using either estimation methods or a complete survey with resultant data tabulation. Students will also learn about the inherent difficulties of creating and administering a survey including sampling error.

Overview

This can be a class discussion leading to the development and implementation of an asthma survey, or can be a brief discussion of the provided sample survey and the use of that survey with a chosen population. Once the subjects complete the surveys, data will be tabulated and summarized.

Time

2 one-hour class sessions plus time necessary for the administration of the survey to the subjects.

Key Concepts

A survey is a useful tool for data collection.

Surveys must be well designed so that all the pertinent data are collected without being burdensome for the subjects.

Some health-related data are considered sensitive so confidentiality or anonymity might be required for the subjects.

Survey subjects may be chosen so that findings can be generalizable to a larger population.

Skills

Designing a research tool

Making a team research plan

Collecting data from human subjects

Tabulating and collating survey data

Summarizing findings

Materials

Sample survey provided

White board

Tape

Sheets of 8 ½" by 11" paper, cut in half

Graph paper (or)

A spreadsheet program such as Excel

Facilitator Preparation

Look over the provided sample survey and the complete exercise. Determine if you will design your own survey with the students or use the sample.

ETHICS NOTE: If you plan to do a full-scale survey, i.e. larger than your class, you should speak in advance to your principal and the school nurse, who will be able to give you an idea about the extent of the asthma problem in your school. The school nurse might also give you some indication of the feelings of students about asthma; for

instance, in some schools it might be considered “cool” to have an inhaler, while in others, it may be a stigma, especially for student athletes. If there seems to be a stigma problem, students should be encouraged to consider that issue when they design their survey and implementation plan.

Background

There are a variety of ways to do research about people's health. Researchers use doctor's medical records, government information like birth and death records, hospital discharge records, and surveys of individuals about their own health, and health-related behaviors. Surveys can be like informal interviews about people's attitudes and beliefs or they can be purely factual in design. Surveys can be very focused and brief or very long and detailed, depending on exactly what the researchers are looking for. Survey design is actually a field all its own in health research, but the students can get an idea of the issues involved by designing their own survey to comply with the requirements of their contract with the School Board in the scenario. The provided sample survey by Dr. Kunjana Mavunda was used in many Miami Dade County Public Schools (Florida) in 1999. A key has been provided to point out important features of the sample survey, which students should understand and consider when creating their own or when using the sample.

Procedure

The teacher should lead an introductory discussion of how health data are collected. The teacher should also see what ideas the students have generated about how to gather their school asthma data. If the students are already thinking in terms of a survey and you want to do a complete survey design, use the following method:

1. Split the students into their four teams. Ask each team to come up with ten questions they would like to see on the survey. Have them write their questions large, one per half sheet of letter-size paper.
2. When they finish, divide the white board into two halves, one side for "Demographics" and one side for "Health information."
3. Each group should take turns sticking their pages with questions on the board on the correct half. Duplicates should be dropped. Each team must explain their reason for their question as they put them on the board.
4. Now as a class, students must decide how to quantify (measure) certain demographic answers. For example, race.
5. Now how will the students quantify the health variables such as "difficulty breathing"?
6. Finally, students have to identify their study "population" -- and figure out how to test a representative sample of that group.

At least one member of each team should be involved in the administration of the survey to subjects and the collation of the collected data.

Following the entry of the data into a spreadsheet (either on the computer or manually), students should have a discussion about what their impressions of the data are, what ideas they are getting about possible interventions, etc. Students should also discuss what they feel were the shortcomings of their survey plan and whether or not they are confident about the data they have collected.

Finally, the "writers" of each team should write a page summarizing their findings. These summaries should be incorporated into the final data summary presented in the Final Report.

Further Investigation

As an alternative to the above, take a qualitative approach to the survey and interview students with asthma about their condition, or ask the school nurse to ask students with asthma to write confidentially about their illness. This personal approach can help students get a "feel" for the needs or concerns of students with asthma in their school in a way not possible with only a quantitative survey approach.

Student Assessment

Use to following questions when assessing student work:

- Did the students develop useful survey questions?
- Did the students understand the difference between demographic questions and health questions?
- Did the students identify a specific survey population?
- Did students identify variables?
- Was the completed student survey clearly written?
- Did the students carry out the survey in a scientific manner?
- Did the students analyze the data and interpret their findings?
- Were the students able to make some hypotheses about the asthma problem in their school?
- Were students able to identify possible problems with bias based on their survey design?
- Did students discuss the issue of confidentiality?

RESPIRATORY HEALTH SURVEY

To Students:

Many teenagers have breathing problems like asthma and bronchitis. We have developed this questionnaire to determine the extent of this problem. You are being asked to fill out the following questionnaire to help us determine how many students have asthma and breathing problems. Please answer all the questions. Your responses will remain confidential. We are interested in truthful answers. If your responses suggest that you have symptoms that require attention, appropriate referrals will be made.

If you do not want to participate in this research, you do not have to.

I have been explained the purpose of this research.

I do ___ I do not ___ agree to participate in this research.

Please tell us whether you have shortness of breath, wheeze (that is a whistling noise coming from the chest) or cough with certain activities. Use the following classification:
rarely = less than two times a week, sometimes = 2 to 4 times a week
often = more than 4 times a week

	<u>Rarely</u>	<u>Sometimes</u>	<u>Often</u>
1. When you walk fast, run, or play sports, do you			
a. feel short of breath	_____	_____	_____
b. wheeze	_____	_____	_____
c. cough	_____	_____	_____
2. When you get excited, upset, or angry, do you			
a. feel short of breath	_____	_____	_____
b. wheeze	_____	_____	_____
c. cough	_____	_____	_____
3. When you are around dust, smoke, or animals, do you			
a. feel short of breath	_____	_____	_____
b. wheeze	_____	_____	_____
c. cough	_____	_____	_____
4. Do you wake up at night because you			
a. feel short of breath	_____	_____	_____
b. wheeze	_____	_____	_____
c. cough	_____	_____	_____
5. When you get a cold or the flu, do you			
a. feel short of breath	_____	_____	_____
b. wheeze	_____	_____	_____
c. cough	_____	_____	_____
6. In the past month, have you missed school because of breathing problems?			
Never _____ 1-3 days _____ 4-7 days _____ more than a week _____			
7. Do you have a physician or clinic that you see on a regular basis?			
Don't have one _____ Name _____			
8. Comments:			

THANK YOU FOR YOUR COOPERATION!

Key to the Sample Survey

1. The first paragraph serves several very important purposes in this survey. It provides for what researchers on people call "**informed consent**" -- it explains what the researchers are looking for (and why), and explains what the subjects are being asked to do. It also notes the rights of the subjects (to not participate, for example) and obligations the researchers have to the subjects (for example, to make a referral to a doctor if necessary and keep the data confidential). This survey has a spot for student information. However, since the survey carried out as part of this curriculum would be done by students, identifying information may have to be omitted in order to assure confidentiality. If students' survey design cannot reasonably assure subjects of confidentiality, then that claim should not be made as part of the informed consent.
2. If many of the students surveyed choose not to participate, you would have a low **response rate**, which can skew your results.
3. **Demographic information** is gathered on the subjects including race and sex. It is known that there are differences in asthma rates across the races and sexes. Also, it may help students to plan their intervention to know the character of their target audience.
4. The next section is the **basic asthma information** about diagnosis, medication, and possible aggravating factors.
5. The last page asks for specific details about the **severity of respiratory problems** felt by the subject (if any). This might be the area in which students discover subjects who seem to have asthma but are officially undiagnosed. There is a complete key to the use of this page following this page.
6. A few lines for open **comments** are always a good idea, so subjects can put in their unique touch.
7. It is always important to **thank the subjects**, without whom you would have no results!