Challenges of Identifying Asian Women for Breast Cancer Screening

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Purpose/Objectives: To emphasize the need for multiple data sources to develop a comprehensive list of potential respondents for a study of breast cancer screening behavior among Asian American women.

Design: Descriptive, pilot.

Setting: An urban Michigan county.

Sample: 616 Chinese women age 40 and older.

Methods: Comparison of multiple data sources, including lists from membership directories of local Chinese organizations, a commercial survey company, health promotion events, and brief telephone interviews.

Findings: Of the 616 eligible women, 32% were identified through the membership directories of local Chinese organizations, 28% from a list obtained from the survey company, 22% from telephone directories, 10% from the attendance lists of health promotion events, and 8% from more than one source.

Conclusions: Multiple sources are required to obtain a comprehensive list for specialized populations. Every data source has its advantages and disadvantages. The use of diverse sources helps to offset the limitations of each individual one.

Implications for Nursing: Identifying potential participants from specialized populations represents a major issue for clinicians and researchers in nursing and other health-related disciplines. Strategies exist to facilitate the process.

Key Points . . .

- More research in populations of varying cultural backgrounds is needed as the U.S. population diversifies.
- Culturally informed and sensitive methods are needed to identify potential participants from specialized minority populations.
- Developing a comprehensive sampling frame prior to sampling strengthens the research design.
- Developing a comprehensive sampling frame for a specialized minority population requires multiple sources, with heavy emphasis on collaboration with local community groups to obtain membership lists and information from key informants.

Cancer is a leading cause of death among Asian Americans, but Asian women tend to underuse breast cancer screening services (American Cancer Society [ACS], 1997; National Institutes of Health, 1998; Schulmeister & Lifsey, 1999; Yu, Seetoo, Tsai, & Sun, 1998). This article reports how multiple data sources were used to generate a list that could be used to recruit participants in a study of breast cancer screening among Asian women in Michigan. Survey statisticians call this list a sampling frame (i.e., a list of people from which a sample eventually will be drawn) (Salant & Dillman, 1994).

Methods

The investigators faced a great challenge in identifying Asian women because no complete list by age existed and the Asian population in Michigan is scattered. Four data sources were used to minimize coverage errors (Salant & Dillman, 1994) and to develop an extensive sampling frame of eligible women that included their names, addresses, and telephone numbers.

Sample

The project was conducted in a southeastern Michigan county that has the second-largest Asian population in the state (U.S. Bureau of the Census, 1993). Because the Asian population covers a great number of ethnic groups that are diverse in language, culture, history, religion, and demographic characteristics, the pilot study for which the list was needed focused on Chinese, the largest Asian group in the research site. Both U.S. citizens and noncitizens were included in the study because almost 70% of the Chinese population in the

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United States are immigrants, and more than 39% of the immigrants are not U.S. citizens ("Do not ignore the U.S. census 2000," 1999).

In view of ACS's recommendation (2002) that screening mammography should begin by age 40, the study needed female participants age 40 and older. Based on the 1990 census and population projections, an estimated 600 Chinese women age 40 and older lived in the identified county in 1999 (U.S. Bureau of the Census, 1993, 1998). To minimize coverage error and develop a list that was as comprehensive as possible, a project goal was to compile a list containing no less than 80% of the target population (i.e., to identify no fewer than 480 [600 x 0.80]) of Chinese women age 40 and older. This goal was a useful guideline to measure the project's progress.

Data Sources

The four data sources described in this article, in the order of the data sources used, included a commercial survey company, health promotion events, the membership directories of local Chinese organizations, and brief telephone interviews.

The first data source was obtained from a commercial survey company. Based on the recommendation of a senior researcher at the University of Michigan Institute for Social Research, two commercial survey companies were contacted by telephone, and the one that offered quicker service and a better price was selected. The selected survey company developed the data set in less than one week and sent it directly to researchers electronically. The list included names, addresses, and telephone numbers of Chinese women age 40 and older residing in the selected southeastern Michigan county. The cost included a $100 set-up fee, as well as 8¢ per name.

The second data source was a list of women who had attended health promotion events sponsored by the authors' Healthy Asian Americans Project (HAAP). Initiated in 1996, HAAP aims to improve the overall health status of Asian Americans and immigrants living in the United States with a special focus on southeastern Michigan. Participants in the HAAP-sponsored events were asked to complete a registration form, including questions about their ethnicity and age groups.

The third data source consisted of published membership directories from 10 local Chinese community organizations, including local Chinese student associations, Chinese American civic organizations, Chinese professional groups, and weekend Chinese language schools' student and parent directories. Permission to use these directories was obtained from leaders of these collaborative Chinese organizations for the sole purpose of conducting a research project for better understanding of Asian Americans' health issues. The membership directories were provided at no cost for the research project but could be used only for the research activities specified. Because these directories provided no information about women's ages, some active and well-informed community members volunteered to help identify women's age groups.

The fourth data source was compiled from the telephone directory. A list of about 1,870 Chinese households was generated by identifiable Chinese surnames taken from the county's telephone directory issued in January 1999. This list then was reconciled with the existing names generated from the first three data sources. A surprising result was that only 222 names were duplicated. These 1,648 Chinese households (1,870 listed minus 222 duplicates) offered untapped potential.

To explore this potential for additional respondents, a short questionnaire was developed. Using this questionnaire, 11 trained interviewers made customized telephone calls over a four-month period to the 1,648 Chinese households taken from the telephone directory.

Results

The first three data sources generated a list of 478 Chinese women age 40 and older. Each source contributed significantly: 198 from the membership directories of the Chinese community organizations, 171 from the commercial company, 61 from the lists gathered during the authors' HAAP health promotion events, and 48 from more than one of the three data sources. However, together they represented less than 80% of the 600 projected population.

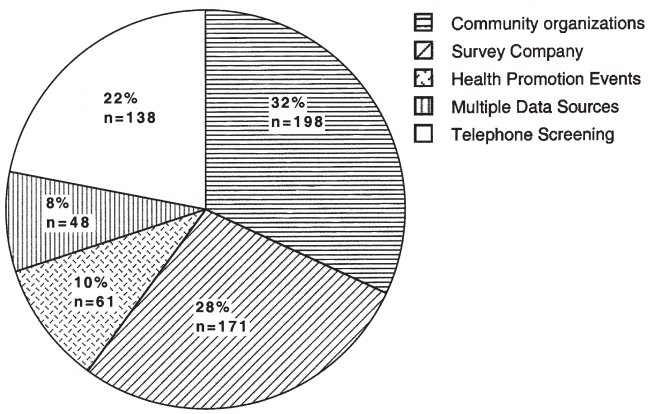
The telephone interviews identified an additional 138 names. With the inclusion of the results from the telephone calls, the final sampling frame had a total of 616 eligible women (see Figure 1), which is approximately the number estimated from census records and projections for the study area.

Discussion

Program planners and researchers often want to survey populations that simply are not listed anywhere. "This problem calls for creative solutions, which usually means developing one's own list from multiple sources" (Salant & Dillman, 1994, p. 61).

Every data source used for this project had its strengths and limitations. The cost for the data set provided by the commercial survey company was reasonable and affordable. However, some names in the list were unusable because of incomplete, inaccurate, or outdated information.

Rosters from HAAP and local Chinese community organizations were available without charge to the project; however, registration forms of the HAAP-sponsored health promotion events identified only 61 eligible Chinese women. The mem-



Multiple data sources refers to names provided by two or more of the following sources: community organizations, the survey company, and health promotion events.

Figure 1. Data Source Distribution Chart Indicating the Importance of Each Data Source to the Sample Size

bership directories of local Chinese organizations did not include those eligible women who did not participate in any of these Chinese community organizations.

The advantages of telephone surveys, such as rapid turnaround, greater interviewer control, and relatively lower cost (Dillman, 1978; Frey, 1989), provided a supportive argument for using the telephone to screen for eligibility. In a particularly relevant study, Salant and Dillman (1994) aimed to identify households with someone over 55 years of age. The authors indicated that one of the best ways to screen respondents for eligibility is to use the telephone. Salant and Dillman's statement provided a convincing rationale to further justify the use of telephone interviews because their list was similar to the one needed for the current study. In addition, identifying eligible women from the telephone book required specialized interviewing techniques. Bilingual interviewers could complete the telephone interviews effectively because of their cultural knowledge, language ability, and familiar accents. Therefore, selecting interviewers who are knowledgeable about the minority group being sought may be necessary. Also, a carefully designed, culturally sensitive training program was helpful. The training program sought continuous improvement of interviewing techniques through staff discussion of specific telephone situations and culturally appropriate strategies to solve various problems. Nonetheless, telephone interviewing could not find individuals whose names were not listed in the telephone directory or those who used surnames of their non-Chinese husbands.

Limitations

This is the first known report that explored how multiple data sources can be used to identify Chinese women age 40 and older who live in dispersed geographic communities. The findings should be viewed with caution because it was conducted only among one of the Asian subpopulations of a specific age and in a specific service area.

Implications

More clinical outreach and programmatic research with populations of varying cultural backgrounds will be especially needed as the American population diversifies (National Institute of Nursing Research, 1995). Although the population of this pilot study may be significantly different from other populations in terms of demographic characteristics, language ability, and health practice, this study has methodologic implications for both clinical and research projects. It is especially suited to nursing and other healthcare disciplines that involve specialized populations where clinical or organizational access does not provide a representative recruitment list or sampling frame.

Conclusions

Complete lists for specialized populations require multiple sources to help offset the limitations of each source. Identifying potential research participants from specialized minority populations requires culturally informed and sensitive methods.

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References

American Cancer Society. (2002). *Cancer facts and figures.* Atlanta: Author.

American Cancer Society. (1997). *Cancer facts and figures*. Atlanta: Author.

Dillman, D.A. (1978). *Mail and telephone surveys: The total design method*. New York: Wiley.

Do not ignore the U.S. census 2000. (1999, November 5). *Asianweek*, p. M9.

Frey, J.H. (1989). *Survey research by telephone*. Beverly Hills, CA: Sage.

National Institutes of Health. (1998). *Women of color health data book*. (NIH Publication No. 98-4247).

National Institute of Nursing Research (1995). *Community-based health care: Nursing strategies*. (NIH publication No. 95-3917). Bethesda, MD: Author.

Salant, P., & Dillman, D.A. (1994). *How to conduct your own survey*. New York: Wiley.

Schulmeister, L., & Lifsey, D.S. (1999). Cervical cancer screening knowledge, behavior, and beliefs of Vietnamese women. *Oncology Nursing Forum, 26,* 879–888.

U.S. Bureau of the Census. (1993). *1990 census of population (1990 CP-2-24): Social and economic characteristics, Michigan* (section 1 of 2). Washington, DC: U.S. Government Printing Office.

U.S. Bureau of the Census. (1998). *Statistical Abstract of the United States: 1998* (118th ed.). Washington, DC: U.S. Government Printing Office.

Yu, M.Y., Seetoo, A.D., Tsai, C.K., & Sun, C. (1998). Sociodemographic predictors of Papanicolaou smear test and mammography use among women of Chinese descent in Southeastern Michigan. *Women's Health Issues, 8,* 372–381.