Using household surveys and other information sources to study health equity in Latin America and the Caribbean

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Most of the papers on health equity in this issue of the *Revista Panamericana de Salud Pública/Pan American Journal of Public* use household survey data as the primary source to study various dimensions of health inequalities (1–5), and the same can be said of most of the other current literature on health inequalities. Overwhelmingly, household surveys are the sources of data to study inequalities in health status as well as to examine access to and utilization of health care services.

What is the reason for this? Are these data from household surveys reliable? How can this important source of information be improved in order to better understand inequalities in health? Are there surveys that can be used to study inequalities in health in all the Latin American and Caribbean countries? How expensive are these surveys? This piece seeks to answer these questions.

HOUSEHOLD SURVEYS AND HEALTH INEQUALITIES

There are many types of household surveys. The discussion that follows will focus on what is known as "general-purpose household surveys." Such surveys were devised to study household expenditures (and/or income), job and occupational conditions, education of the members of the household (both highest level of attainment and current enrollment), conditions of the dwelling, and access to and utilization of services, including health services. The surveys usually also include a few questions on self-assessment of health status and the presence of health problems. Some of the surveys also include modules for special population groups such as children and women of reproductive age. The modules may cover such topics as immunizations, prevalence of diarrhea, upper respiratory tract illnesses in children, complete birth histories for women, and women's use of contraceptive methods.

Another type of surveys with more limited usefulness are the Demographic and Health Surveys, which are produced by MEASURE *DHS+*, an organization based in Calverton, Maryland, United States of America. The DHS surveys concentrate on women of reproductive age and on children below the age of 5 years. While they almost never have information on expenditures or income, they do in-

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clude data about conditions of the dwelling, education, crowding, and other characteristics. These data allow some limited analyses of the relationships that health-seeking behaviors, health outcomes, and access to and utilization of some types of health care services have with some aspects of the social and economic determinants of inequalities.

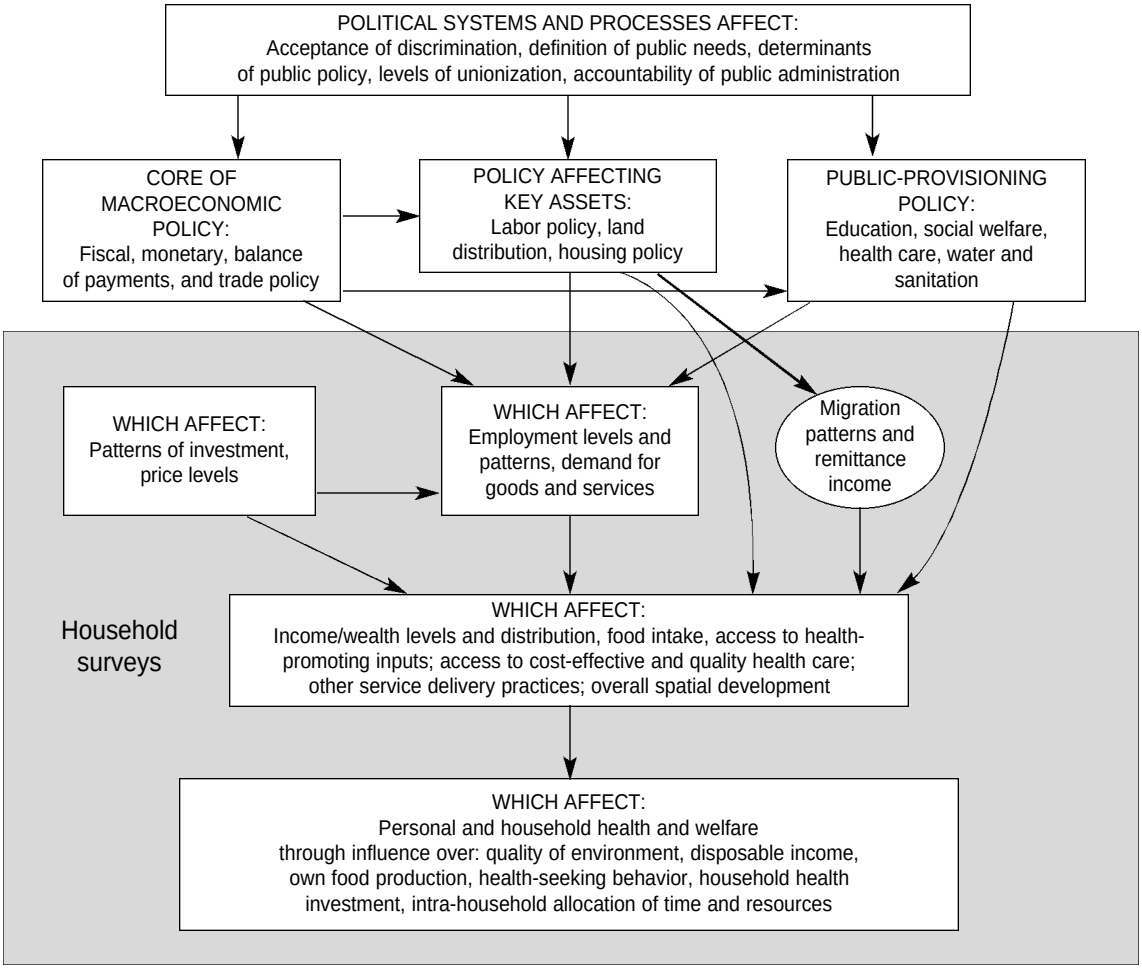
Martin Ravallion affirms the importance of general-purpose household surveys as a source of data for monitoring the relations between the determinants and the living standards in a society. Household surveys, according to Ravallion, "are the only source [of data that] can tell us directly about the *distribution* of living standards in a society" (6) (emphasis in the original).

The reason for this can be seen in Figure 1. This framework, developed by Whitehead and Dahlgren, presents a network of determinants of health and health inequalities.

The information gathered in general-purpose household surveys covers the shaded area that is in the lower part of the diagram. The data from general-purpose household interview surveys provide all the information needed to study the webs of proximate determinants of inequalities in such health areas as health status, access to and utilization of health care services, and out-of-pocket expenditures for health services and goods.

This wealth of information is not available from any other source. The traditional data sources—administrative registration data recorded and gathered in the health service or civil registration systems—do not have information on the social and economic determinants (7). The traditional data

FIGURE 1. Framework for the relationships of health inequalities and their determinants and the part covered by the data in general-purpose household surveys[a]



[a] Adapted from Whitehead and Dahlgren (unpublished).

sources also do not cover the entire population. For example, individuals at the lowest economic level are often left out, such as with utilization data, since those persons do not seek care or do so only under very special conditions. Another example is with mortality data. All the countries in the Region of the Americas have some degree of mortality underregistration, which is usually higher for infants and children. The death certificates of almost all the countries include some fields for information on education, occupation, and even race and ethnic origin, but these fields are seldom filled in. Even when the information is entered, it is seldom readily available in electronic data files. One exception is Chile, where mortality underregistration is very low and the information on the death certificate is usually complete. This has made it possible to study inequalities in gains in life expectancy according to education (8). Of the various articles in this issue of this journal, the only one that uses registration data to study inequalities is also on Chile, using mortality registration information for small areas (9).

In those countries where there is no general-purpose household survey but there are surveys covering health as well as other surveys for household expenditures and income, the only studies performed have been at the ecological (aggregate) level, using other sources of data to create indices of living standards for small areas (10).

HEALTH DATA IN GENERAL-PURPOSE HOUSEHOLD SURVEYS

All general-purpose household surveys include some questions on health. An appraisal of the health contents of household surveys in Latin America and the Caribbean has been recently completed (11). The questions on access to and utilization of health care services are fairly standard and usually include information about the person who attended the individual (physician, nurse, pharmacist, traditional healer, etc.) and the type of establishment where the person went for care (health post, hospital, etc., including the type of affiliation, such as private, public, social security, etc.).

The suggested contents of health modules of general-purpose surveys is presented in a text that summarizes 15 years of experience with the Living Standards Measurement Study of the World Bank (12). The Inter-American Development Bank, the Economic Commission for Latin America and the Caribbean (ECLAC), and the World Bank coordinate the Program for the Improvement of Surveys and the Measurement of Living Conditions in Latin America and the Caribbean. The Pan American Health Organization (PAHO) has been admitted as an associate member of that Program, to work with the countries of the Americas to improve the health modules of surveys and to promote better use of the data from existing surveys to study health inequalities.

The questions on health status in household interview surveys are necessarily self-assessments and perceived problems, and they thus present many problems, especially in terms of cross-country comparability. Self-assessment is also influenced by the social and economic determinants of health itself, presenting an additional source of confounding in the analyses. In one of the papers in this issue of this journal some of the problems related to perceived health problems are discussed (1). The work that Sadana and colleagues have done for the World Health Organization analyzes several dozen surveys around the world in terms of the comparability and reliability of the questions used (13).

Notwithstanding all the needed improvements, even self-assessed health status questions are very useful in studying health inequalities (14), and several works have shown the utility of this type of questions in forecasting future health and mortality (15–19).

Additional analyses can be done with surveys where data are also obtained for more specific population groups. Having complete birth histories makes it possible to construct abridged life tables for groups below 5 years of age and to develop survival models to study the relationships that important determinants have with inequalities in infant or child mortality (20). The existence of information on weight and height for children makes it possible to develop innovative studies on the determinants of inequalities in child development (3).

SURVEYS FOR SPECIFIC COUNTRIES

PAHO's Program on Public Policy and Health has created a database on existing household surveys in Latin America and the Caribbean that include at least one question on self-assessment of health status; the database is available on-line at http://www.paho.org/spanish/hdp/asp/encuestas.asp?L=E). The database does not include survey data, which have to be obtained from the institutions that carried out the surveys. Among these institutions are national institutes of statistics, Macro International (Demographic and Health Surveys), and the World Bank (some of the Living Standards Measurement Study surveys).

The PAHO database can be searched by year, country, and type of survey. The record for each survey gives the name of the survey, the type of the survey, the institution that produced it, sample sizes, an

address (usually a Web address) to inquire about obtaining the data, and information on the survey's documentation and questionnaire. The record also has information on whether the survey includes questions on: 1) macro determinants of health (dwelling, household assets, income, consumption, education, employment, ethnicity or race, and migration) and 2) health variables (self-assessed morbidity, anthropometry, utilization of health services, health expenditures, reproductive health, children below the age of 5 years, and older adults).

All but three of the countries in the Americas with a population of one million or more have at least one survey from the last 15 years in the PAHO database that could be considered a general-purpose household survey and that includes at least one question on self-assessment of health status or perceived health problems. In eight Latin American countries there is at least one DHS survey, and, in several cases, there are three or four of the surveys. Other countries have regular general-purpose surveys that cover health status, access to and utilization of health care services, and out-of-pocket expenditures for health care services and goods.

Most of the countries in the Americas have adopted the policy of making their data widely available for a nominal cost. All the DHS survey data can be downloaded from the Web pages of MEASURE *DHS+* (http: // www. measuredhs. com) after a simple registration process.

In the past 2 years, using data from these surveys, PAHO's Program on Public Policy and Health has been producing "summary sheets on inequalities in health." Ten of these are already available on-line (http: // www.paho.org / Spanish / HDP / HDD / hdd-fact-dachs.htm). Nine of them are available in Spanish (Argentina, Chile, Colombia, Ecuador, El Salvador, Nicaragua, Panama, Paraguay, and Peru), and one of them is in English (Jamaica).

Also using survey data, two PAHO units, the Program on Public Policy and Health and the Program on Basic Sanitation, have jointly produced individual studies on inequality in the access to, utilization of, and expenditures on drinking water for 11 countries: Bolivia, Brazil, Chile, Colombia, Ecuador, El Salvador, Jamaica, Nicaragua, Panama, Paraguay, and Peru. The reports are available on-line (http: // www.paho.org / Spanish / HDP / HDD / hdd-agua.htm); all of them are in Spanish except for the one on Jamaica, which is in English.

Using DHS data, the World Bank has also produced a series of summary sheets on inequalities, including nine on countries in Latin America and the Caribbean (21).

The financing of these surveys has been done with resources from different national, international, and bilateral agencies. The Demographic and Health Surveys are generally financed at least in part by grants from the United States Agency for International Development, with the remainder of the cost covered by other institutions, including the respective national institute of statistics in each country. The other surveys are financed by grants and loans from the World Bank and the Inter-American Development Bank and in many instances by the national institutes of statistics themselves, especially in larger countries such as Argentina, Brazil, Chile, Colombia, and Peru.

The total cost of each survey ranges between one and four million U.S. dollars. Some persons have said this cost is too high. However, the surveys will continue to be done because they constitute indispensable sources of information for developing public policy in general, in addition to their usefulness for studying health inequalities.

SINOPSIS

El uso de las encuestas de hogares y de otras fuentes de información para estudiar la equidad en salud en América Latina y el Caribe

Las encuestas de hogares son en la actualidad la fuente más importante de datos para estudiar las desigualdades sanitarias. Esto se debe principalmente a que estas encuestas usan muestras representativas de la población de los países y cubren sus zonas urbanas y rurales, sus diferentes regiones geográficas y todos los estratos sociales y económicos de la población. Esto contrasta con los datos individuales de los registros administrativos tradicionales, reunidos y registrados en el sistema del servicio de salud o del registro civil y que generalmente tienen escasa utilidad para el estudio de las desigualdades. Estos datos de los registros tradicionales no cubren a la totalidad de la población y raramente contienen información sobre las condiciones económicas y sociales de las personas registradas. El Programa de Políticas Públicas y Salud de la Organización Panamericana de la Salud (OPS) ha creado una base de datos de las encuestas de hogares existentes en América Latina y el Caribe y ha usado estas encuestas para producir numerosos documentos sobre las desigualdades sanitarias y sus factores determinantes. Este artículo proporciona información básica sobre las encuestas de hogares y reseña la documentación sobre desigualdades producida por la OPS y otras instituciones.

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