

# Exploring the role of population surveys in the health sector

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Globally, health-related information is one of the main pillars of any national health system, which enables policy makers in making evidence-based decisions, planning and resource allocation, program monitoring and evaluation, strengthening of the healthcare delivery system, and development of the community as a whole. In the modern era, different sources of health information have been utilized on the basis of the objective to be fulfilled. However, most of those routine sources do not provide the required comprehensive insights about health and disease in the community, which mark the need for population-based surveys to supplement the routinely collected data and statistics. In conclusion, population-based health survey is an indispensable managerial tool to obtain comprehensive health information, and thus play a crucial role in the strengthening of the healthcare delivery system.

### Keywords:

global, health information, population survey, public health

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Globally, health-related information is one of the main pillars of any national health system, which enables policy makers in making evidence-based decisions, planning and resource allocation, program monitoring and evaluation, strengthening of the healthcare delivery system, and development of the community as a whole [1,2]. Although the principal objective of a health information system is to ensure provision of a reliable, appropriate, up-to-date, sufficient, timely, and comprehensive information for health managers, it remains extremely difficult to get the information where it matters most – that is, at the population level [2]. In fact, the most essential prerequisite for a health information system is that it should be population based (viz. reflects the sociodemographic/economic/health indicators of the community) [3].

In the modern era, different sources of health information (viz. census, registration of vital events, notification, hospital records, etc.) have been utilized on the basis of the objective to be fulfilled [1,3]. However, most of those routine sources do not provide all the insights about health and disease in the community, and this necessitates the need for population surveys to supplement the routinely collected statistics [2]. In general, population surveys can be conducted in almost any settings, and they usually aim to evaluate the health status of a population (viz. community diagnosis), to understand the natural history of disease through assessment of health determinants, and to conduct surveys relating to health services management and administration (viz. utilization of health services, expenditure on health, etc.) [2,4].

Population surveys can be either cross-sectional or longitudinal, descriptive or analytic, or both [5]. These surveys usually derive information from a sampling unit such as a household or a cohort from an institution as it enables researchers to collect social, economic, demographic, and health-related data in a convenient way [5,6]. In epidemiology, the concept of time is essential while referring to a population of individuals. By and large, populations can be categorized as follows:

- (1) Cohort-type (closed): Cohorts are populations that share common characteristics over a period of time and are static. Membership to the population is permanent. Examples include enrollment in a study, diagnosed with a disease, etc. [7].
- (2) Dynamic-type (open): These populations are defined by a transient state and have turnover. Examples include trip to a holiday destination, temporary exposure to a chemical at workplace, etc. [7].

The sample size for this type of surveys depends on the measurement being made and the degree of precision needed [2]. Furthermore, to augment the generalization of the results, it is crucial to ensure that the study respondents are representative of the population from which they were sampled [6]. The use of health information varies at different levels:

- (1) Individual and community level: Information is needed for adequate clinical management and for evaluating the extent to which healthcare services are meeting the needs of society [8].
- (2) District level: Information enables managers to take evidence-based decisions to ensure effective

functioning of health facilities and health system as a whole [8].

- (3) Higher level: Health information is utilized for policy making and timely allocation of resources [8].

To perform population surveys, four methods of data collection are used, namely face-to-face interview (viz. indicated for measuring subjective phenomena such as perceived morbidity, disability and impairment; advantage – does not require clinical person; disadvantage – time consuming and cannot be carried out on an extensive scale); health examination (viz. indicated when information about morbidity is needed; advantage – information is reliable; limitation – expensive, requires trained staff, and cannot be carried out on an extensive scale); health records survey (viz. indication – to assess the trends of a particular health condition; advantage – quick, cheap, and no need for a technical person; limitation – unreliable, often incomplete information, with lack of uniform procedures and standardization in the recording of data); and self-administered/mailed questionnaire survey (viz. advantage – simple, cheap, no need for a technical person; limitation – high rate of nonresponse) [2,5,9]. Often a combination of different methods (such as interviews and health examination surveys) is recommended to negate the shortcomings and enhance the reliability of collected data [3]. Eventually, the collected data should be transformed into information by presenting them in a manner that comparisons over time and place are possible [2,3].

From the program manager perspective, the health information system is an essential constituent of both the healthcare delivery system and the wider statistical system [8]. However, the accountability for health-related attributes is often dependent upon heterogeneous ministries or agencies [8]. Nations differ in the extent of linkages between officials from the department of health and national statistics offices [10]. Even demand and supply of data differs in complex ways at different levels of the health system owing to the view that there should be no data collection other than at the level at which the data will be used [8,10]. In the field of public health, multiple

population studies such as Framingham Heart Study, Avon Longitudinal Study of Parents and Children, and INMA Mother and Child Cohort Study have been successfully conducted [11–14].

In conclusion, population-based health surveys are indispensable managerial tools to obtain comprehensive health information, and thus play a crucial role in strengthening of the healthcare delivery system.

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### Conflicts of interest

There are no conflicts of interest.

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