

Public health and research: an overview

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Abstract

Purpose – This paper was to describe the overview of public health research.

Design/methodology/approach – It is a commentary piece of work from own long experience in working with the World Health Organization.

Findings – This study has innovative ideas in approaching priority areas in public health research.

Originality/value – This study opens up new thought in public health research.

Keywords Public health, Public health research, Research

Paper type Commentary

An overview of public health

Public health is the science and art of preventing disease, prolonging life and promoting human health through organized community efforts as well as the informed choice of society, public, private and voluntary organizations and communities at large. Analyzing the health of a population and the threats to that health forms the basis for public health.

Additionally, “health”, as defined in the WHO Constitution in 1948 [1], considers physical, mental and social well-being and is not merely the absence of disease or infirmity. Furthermore, public health is interdisciplinary, thus, a “public health team” may include several related disciplines in health and other social fields. Access to public health initiatives for comprehensive and integrated health care and services is always a difficult challenge in any population setting.

The objective of this commentary is to provide an overview of public health research and highlight innovative thinking in the field.

Public health systems

Public health systems are commonly defined as “all public, private, and voluntary entities that contribute to the delivery of essential public health services to people within a jurisdiction” [2]. This concept is to ensure, among other things, that all contributions to the improved health and well-being of the community or state are appropriately recognized and counted in the assessment of the provision of public health services to the community. The public health system includes public health agencies at state and local levels; all healthcare providers; public safety agencies; human services and charity organizations; education and youth development agencies; recreation and art-related organizations; economic and philanthropic agencies and environmental organizations.

The 10 essential public health services/functions

There are 10 essential public health functions/services describing the public health activities that should be undertaken in all communities of a country. These are essentially [3]:

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- (1) Monitoring community health situations to identify and solve health problems and prevent any health risks in the community;
- (2) Investigating and diagnosing specific health threats and health hazards in the community with the view to their early prevention;
- (3) Through modern technology in communication, informing, educating and empowering people in the community about health issues and challenges and their interventions;
- (4) Identifying/investigating and solving any problems of public health importance;
- (5) Through the full participation of people, developing policies and plans that support individual and combined health efforts in the community;
- (6) Ensuring effective enforcement of laws and regulations that protect environmental health and assure the safety of the population;
- (7) Linking people to needed personal health services and ensuring the provision of quality health care when otherwise unavailable;
- (8) Assuring the availability of effective public health workforce and competent healthcare personnel in both public and private facilities;
- (9) Objectively evaluating efficiency, effectiveness, accessibility and quality of personal as well as population-based health care facilities and services and
- (10) Undertaking study/research for new insights and innovative solutions to effectively counter prevailing and emerging health problems.

Public health research

Public health research aims to elucidate the influence of factors that determine the health of a population, i.e. genetic, environmental, social-cultural, economic, political, etc. The objective of public health research is to use the knowledge gained to propose policies and interventions, based on scientific evidence, and to help improve the health and well-being of the population and ultimately reduce/eradicate health inequalities.

Public health research is characterized by its multidisciplinary approach. It draws on several disciplines in its development and management, especially epidemiology/human ecology; biostatistics; physical and social sciences as applied to health; biology; genetics and toxicology. It usually entails the analysis of data on population samples on varying scales, depending on the scope and purpose of the research [4].

In practical terms, public health researchers study the statuses of population health and well-being, disability and loss of independence. They analyze the determining risk factors of these statuses or conditions, whether biological, behavioral, psycho-social or environmental. In addition, the researchers develop and assess the interventions aiming to effectively promote population health, prevent disease and compensate for disabilities and loss of independence. They also develop and assess innovation to improve efficiency and effectiveness of the organization of healthcare facilities and personnel, in public health, medical and other social service areas.

Research in health may be in the fields of health research, medical research, public health research, health services research, health systems research, environmental health research and others. These are interlinked and need to be pursued in a parallel manner in public health development.

Funding agencies

There are multiple sources of funds that promote and support public health research [5], at both international (multilateral and bilateral) and national levels. Funding application research proposals must be developed in response to the interest of the public health community at both levels. To this end, some factors influence the decisions made by funding agencies to support an application:

(1) Mission and role of funding agencies

Funding agencies have policies and plans designed to meet missions and roles. Researchers should know of the mission and nature of agencies, their policies and plans in relation to their own research needs and tailor their applications accordingly.

(2) Quality of research proposal

- Relevance to current health-related issues and problems; responding to priority public health needs and the challenges of community and country are crucial. Applications should also be in the interest of the international/global health community.
- Formulation with rational and logical thinking; Research proposals should be well-conceived and developed according to sound research methodology/protocol on epidemiological principles.
- Expected result of the proposal; The result must be of high quality and should imply strong feasibility in its subsequent application/implementation in both technical, managerial and financial terms.

Public health system development research

In the author's experience, some successful sample projects may be mentioned as follows:

- (1) DEIDS (development and evaluation of integrated health delivery system) (Thailand Lampang Health Development Project), 1973-1978 [6].

This worldwide exercise of USAID was launched in six countries including Thailand. Its purpose was to develop effective healthcare systems at the sub-national level to serve particularly the rural population. USAID and the Thailand Ministry of Public Health cooperatively pursued the project together with technical backstopping from some Thai Universities and the University of Hawaii, USA.

- (2) District Health Services Development Project based on the principle of the primary health care approach, Mongar Health Development Project in Bhutan, 1984–1990 [7].

This project was an effort to ensure the attainment of the "Health for All" goal in Bhutan. Its development, implementation and subsequent replication of results were technically and financially supported by the World Health Organization. The Government of Bhutan was awarded the prestigious Sasakawa Health Prize in 1997 for the success of the project on primary health care implementation in Mongar Dzongkhag.

- (3) Comprehensive and Integrated Health Research Development Project on hill- tribe population, 2014–present (still ongoing)

This is a long-term large research and development project with many sub-projects focusing on various specific issues of the target population. It is a multi-agency and interdisciplinary endeavor developed and implemented through the coordination of the Maefah Luang

University Center of Excellence on health of the hill-tribe population. It includes the development of integrated and comprehensive social and health care services with an emphasis on equity, social justice and self-reliance in the community. There are multiple sources of funding, however mainly from the National Research Council of Thailand.

Some suggested areas for contemporary public health research

- (1) Universal health coverage for all

Issues for consideration:

- Financial sustainability in the long term
- Equal accessibility by all people, regardless of their social and economic status
- The right approach to development, proactive or passive strategy
- Affordability in financial and managerial terms of the country concerned.

- (2) Social impact of drug abuse /addiction

Issues for consideration:

- The social and economic impact of (chaotic situations created by) drug abuse and addiction
- The general health of a population that is gradually undermined by drug abuse and drug addiction, leading, among other things to worsened national social and economic growth.

- (3) Health and social care of elderly population

Issues for consideration:

- Intervention to reduce the degree of morbidity/disability and dependence
- Efforts to increase social and economic productivity/independence
- Program for self-help and self-reliance in an aged population
- Preference between aging and aged programs, the difference between the two.

- (4) Emerging infectious disease (EID)

Issues for consideration:

- The epidemiological, environmental and ecological approach in an integrated manner
- The importance of social and behavioral change
- Emerging mutation, assortment and genetic change in infectious agents
- Impact of global climate change on EID, etc.

Conclusion

Even though it is mainly conceptual, the article may be able to help open new visions in public health research for better and sustainable health in the entire population in various localities.

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