A Novel Approach to Environmental Public Health that Uses Training, Education, and Capacity Building to Address Present and Upcoming Global Health Issues

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Abstracts

ABSTRACT

Significant risks to human health exist both locally and globally as a result of the unsustainable globalization of economic activity, lifestyles, and social structures. All of these issues such as pollution, climate change, and biodiversity loss represent difficulties that are unlikely to be resolved with the methods, resources, and techniques now in use. This article recognizes the need for qualified professionals from a variety of backgrounds to support environmental public health (EPH) initiatives, enhancing society's ability to react quickly and effectively to such complicated circumstances and numerous obstacles. It imagines a brand-new EPH practice that answers inquiries about: Why do this? What has to be done? Who is going to do it? How can it be put into practice? The primary difficult EPH problems in the globe are discussed in this article, along with potential solutions through the use of a conceptual training framework. A companion article offers insights and experiences on how they have been addressed in real-world situations.

Keywords: Public health, professional training, education, ecological public health.

1. Introduction

The public health workforce is a heterogeneous group that is in charge of carrying out critical public health functions, regardless of their institutional connections. These workers are divided into three main groups and need a range of linked knowledge and abilities. This idea must be applied to environmental public health since it is true for public health in general. The State or

other civil society sectors may assign scientific and professional bodies the task of identifying the pertinent fields and expertise required to classify professions (Tang, 2014).

For instance, the Netherlands established a category of environmental health specialists, which are public health physicians with supplementary training in epidemiology, environmental sciences, and toxicology, at the request of multiple ministries. The required skills in environmental public health were created in England by the Faculty of Public Health, which is made up of specialized public health professionals, such as doctors and other specialists. Five areas of specialized knowledge are highlighted for public health practitioners in this sector, in addition to broad organizational abilities in research, teaching, and service management: environmental epidemiology, risk assessment, toxicology, and environmental public health (Martin, 2022).

2. Environmental public health challenges:

Because they are influenced by social, political, economic, and environmental elements at both the local and global levels, population health issues are complicated. The WHO socioeconomic determinants of health framework reflects the need for an integrated and comprehensive approach to public health science and policy formation. In order to determine the unequal distribution of the proximal risk factors (such as air pollution, unhealthy diet, sedentary lifestyle, and smoking), as well as the health status and disease within and between populations, this paradigm considers the distal and structural determinants of health (such as economic or employment policies, access to quality housing, healthy food, and sustainable transportation). Additionally, policies and practices that are not related to health (such as traffic laws, green space availability and urban planning, obesogenic environments, and food quality). are known to have a negative impact on health outcomes (Costumato, 2021).

Environmental change and deterioration at the local and global levels have been exacerbated by the globalization of economic activity, lifestyles, and social structures. Perhaps the most well-known illustration of this is the global impact of particular societies' emissions of greenhouse gases. Global connections have also made it possible for people to become more conscious of the effects on the environment, which has led to improvements both locally (like urban planning) and globally (like international agreements), beginning with the Rio Earth Summit in 1992. The concepts of sustainability, the right to health, and the right to a healthy environment have all been incorporated into national laws in a number of nations. More recently, the UN proclaimed that everyone has the right to a healthy environment (Morris, 2019).

As a result, implementing a skills transition is a pressing task, and the inadequate alignment between skills efforts and the requirements of the green transition must be addressed (Morris, 2006).

3. Strategies for dealing with emerging issues in EPH:

The challenge of reinforcing EPH services is made easier by several frameworks. The WHO originally advocated the Driving force- Pressure-State-Exposure-Effect-Action (DPSEEA) framework method, which has since been modified to look at population wellbeing from an ecosystem viewpoint (e-DPSEEA). The framework enables practitioners to heuristically articulate a conceptually logical chain of events that culminates in an environmental health issue. It aims to draw attention to the significant connections among various facets of development, the environment, and health as well as to assist in identifying practical measures and policies to limit and avoid negative health impacts. Adopting this approach necessitates multidisciplinary training and education theories and methods, such as familiarity with environmental epidemiology, exposure analysis, and health impact assessment instruments (Reis, 2015).

By integrating complexity, various interactions, and societal system change, the Ecological Public Health method can assist in addressing the issues facing public health today. Through this technique, the system as a whole and ecological processes may be understood, as well as how they affect population health. A framework for taking a comprehensive approach from public health science to public health initiatives is offered by ecological public health. Four distinct conceptual models that are recognized in public health technological- economic, behavioristic-social, biomedical, and health-environmental have been contrasted to the ecological approach to public health. Although each of these models has produced achievements, they have also each had drawbacks. Both the advantages and disadvantages have been thoroughly assessed elsewhere (Rayner, 2012).

4. The new EPH practice's concept:

Health professionals at all levels have demonstrated that by assessing new information, from individual health advice to community-wide adaptation planning, it is possible to overcome particular difficulties determined by geography, demographic vulnerabilities, and socioeconomic situations. Addressing problems at the nexus of the environment and climate may be made easier with a comprehensive health system response that integrates public health and medicine. Healthcare practitioners are urged to implement coordinated, proactive interventions that include primary, secondary, tertiary, and foundational health prevention in light of the developing climate catastrophe (Kickbusch, 2015).

A method for determining public health essential competences is expanded to identify talents and skills that present employers value.

The "three domains" of current public health practice, which are delineated in terms of three interconnected but separate dimensions, can be addressed by the new EPH competencies: (1) health promotion, which heavily relies on the profession's local government roots, socioeconomic influences, and health promotion, as well as addressing the underlying determinants of health; (2) health protection, which includes the control of communicable diseases; (3) health service quality improvement, which includes healthcare systems, service

quality, evidence-based practice, clinical effectiveness, and health economics; and (4) occupational health (Martin, 2014; Romanello, 2022).

The areas of practice, the services to be provided, and the roles and duties of those providing them are all included in this strong operating framework. This is especially crucial when outlining the fundamental abilities, know-how, and proficiencies required for the workforce to perform their jobs. This framework can therefore be modified to support training and educational initiatives (McMichael, 2000; Zeka, 2019).

5. Public health professionals' role:

By incorporating data on health and social well-being into decision- making across multiple sectors, health professionals can contribute to the development of sustainable communities. EPH functions are essential for providing decision-makers outside the health sector with useful health information. EPH might benefit from having professionals in charge who are skilled at taking into account the health impacts on the entire population within certain historical and cultural contexts. They might be asked to serve as EPH's "conductors," providing transparent input to decision-makers in other industries. Consensus on suggested interventions is facilitated by this transparency (Lauriola, 2022).

6. Recommendations:

- Given the limitations, it may be said that the ecological public health model enhances and may be able to incorporate existing public health practice models. Prevention programs that disregard the findings of risk assessments at the local and global levels run the danger of being woefully inadequate. Public health practice would be more legitimate and strong if prevention services were developed on the basis of a common culture, beliefs, and behaviors.

- Regardless of the national organization, health care professionals are encouraged to address environmental issues in their roles as public health, environmental, and clinical practitioners. Teachers and students who are keen to encourage their institutions in this direction have stated that this applies to undergraduate students. Additionally, it is pertinent to both aspiring and practicing clinicians, especially those classified as Family Doctors (FDs) and Family Paediatricians (FPs). Physicians should get EPH training that covers the identification, diagnosis, and treatment of health issues brought on by environmental risk factors (ERFs).

- Collaborations with organizations like public health and civil protection agencies encourage the integration of scientific developments into preventive services. People with a variety of educational backgrounds can take part in training programs that combine professional and scientific competencies to improve preventative services. Curriculum creation, integration, and cross- institutional training experiences can help achieve this. Training can last anything from a few days for structural managers to three to six months for specialization in areas like public health or medicine, depending on the demands of the individual. When responsible parties from various scientific and professional associations can agree on the mutual recognition of

certain professional training segments, integration into specialization programs is a feasible strategy.

7. Conclusion:

In Conclusion, It is crucial to empower practitioners from all fields related to environmental public health in order to promote the transition of human societies to ecological sustainability before climate change and other environmental changes have an adverse effect that threatens the social fabric's resilience. Justifications and plans for the more sustainable options within the range of the workforce using their existing positions can be ensured by supporting the education of future generations to go in this direction as well as the current generation of decision makers. It is strongly advised that practitioners from a variety of disciplines receive training and support for the EPH work. Within consortiums aimed at the overarching objective of practically reorienting activities with implications on human health and associated decision making, practitioners from several disciplines, including health, may contribute.

With an emphasis on conceptual frameworks of reference that can guide the overall perspective for implementing environmental public health on the ground, this study offers a reflection on the general trajectory of environmental health preventative training and education. A companion paper summarizes some global experiences and suggestions. These attest to the fact that the call has already been heard and has yielded a number of practical outcomes; as a result, the companion paper offers suggestions for those who plan training exercises in this area. The primary issues that have been brought up are the necessity and viability of integration, the reorientation of present practice through on-the-job training motivated by prior experiences, and the impact of redirected educational frameworks on future practice.

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