

Epidemiology of Increasing Public Health Awareness and Workforce Capacity

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Abstract

Despite the fact that they will work in the field of public health after graduation, medical students receive little experience to field epidemiology. During medical school, we created a 10-week elective in field epidemiology. Students spent nine weeks in field placement sites and one week in epidemiology lectures. To assess the training, pre- and post-tests were given. 34 students were enrolled in 2011 and 2012. Out of 24 candidates in a class of 280 medical students, we accepted five in 2011. From a class of 360 students in 2012, we accepted 18 of the 81 applicants, plus 11 students who merely attended the didactic sessions. The median age of the 34 students who finished the didactic sessions was 24 years, and 74% of them were men. The average pre-test score was 64%, with a range of 47 to 88. The post-test score ranged from 72 to 100% with a median of 82%. The majority of the field projects were completed successfully. Before taking this elective, six (30%) students had no idea that public health was a possible job; 56% of them thought the field experience was excellent; and 100% said it improved their grasp of epidemiology. A generally accepted method to raise medical students' understanding of public health is to include an elective in field epidemiology in their training. Published on behalf of the Saudi Arabian Ministry of Health by Elsevier Ltd. The CC BY-NC-ND licence governs this open access article.

Keywords: Field epidemiology; Medical elective; Workforce development

Introduction

Emerging infectious diseases, HIV/AIDS and sexually transmitted diseases, unintentional injuries, untreated ailments, and non-communicable diseases are just a few of the public health issues that developing nations must deal with. A team with expertise in epidemiology, surveillance, and response is needed to address these complex and varied health occurrences [1]. To teach public health workers in epidemiology, many nations have put in place field epidemiology training programmes. Nevertheless, maintaining appropriate epidemiologic capacity at all levels of the public health system continues to be difficult. In order to provide training at the fundamental, intermediate, and advanced levels for different professionals working in the public health system, a pyramidal training model was designed in Central America. Despite the usefulness of this model, replication of this idea may not be feasible in nations with a small public sector [2].

Despite the fact that public health and field epidemiology are increasingly important components of medical students' total training, little progress has been made in this area. This shortfall is the result of the constant struggle for time in the medical school curriculum as an expanding number of disciplines compete with one another to justify their inclusion. 2.6% of medical students in sub-Saharan Africa who participated in a study to determine actions to increase retention in their home countries said they wanted to work in public health [3]. This shows that the career goals of medical students who graduate from African colleges are not in line with the demands of the continent's labour market. Additionally, numerous studies have demonstrated that formal exposure [4].

Method

The Directorate for Preventive and Promotive Health Services of the Ministry of Health houses the Kenya Field Epidemiology and Laboratory Training Program (FELTP), which was founded in 2004. The primary goal of the Kenya FELTP is to strengthen the Ministry

of Health's epidemiologic capabilities. The Kenya FELTP focuses on two years of instruction leading to a Masters degree [5]. In this two-year curriculum, students acquire applied epidemiological principles primarily by evaluating incoming surveillance and comparable data, using epidemiology to address disease outbreaks, devising and evaluating intervention outcomes, and putting prevention plans into action. The efforts of the trainees are guaranteed to strengthen the public health systems according to this training-through-service methodology. Every year, about 20 Ministry officers join in the programme. Extra initiatives spearheaded by the Kenya FELTP [6].

Short-course trainings on fundamental field epidemiology, surveillance, and outbreak investigations are included in efforts to build epidemiologic capacity within the Ministry of Health. District and county surveillance and medical officers are eligible for this brief course of instruction. Following a one-week didactic module, participants are mentored for about four to six months while they complete fieldwork projects pertinent to their districts. Participants present their work to their peers and other senior Ministry of Health officials during the last week of the course [7]. The Medical Education Partnership Initiative and the President's Emergency Plan for AIDS Relief have recently helped Kenya FELTP start integrating medical school students into the country's plan for creating a public health epidemiology workforce.

Result

Four universities in Kenya offer pre-service medical training, with

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the University of Nairobi graduating the majority of medical doctors. Field epidemiology and surveillance are only very briefly included in these colleges' medical curricula. Many medical school grads find employment as district medical officers after graduation. They might anticipate performing surveillance and field epidemiological tasks in this capacity [8]. The implementation of fundamental training in field epidemiology and surveillance for fourth-year medical students at the University of Nairobi is described in this publication. The major goal of this elective was to increase medical students' proficiency in fundamental areas of surveillance and the utilisation of epidemiological data. Exposing medical students to epidemiology and public health as a possible vocation was a secondary goal. The University of Nairobi's current medical curriculum includes a 12-week elective block in the fourth year, which typically runs from October to December. The placement site must be chosen by the students to meet their learning goals. The elective in Field Epidemiology and Public Health Surveillance was put into practise during this elective block.

Discussion

Students do course work, a practical field placement, written and oral presentations, and other activities to meet their competency requirements throughout this option. Students took part in didactic sessions throughout the first week that covered themes in fundamental field epidemiology and surveillance. Students were sent to one of several field sites at the national and sub-national levels over the ensuing ten weeks. Students were connected with a Kenya FELTP resident or alumnus who oversaw their activities during these field placements. During their Students worked on a project at their field site that involved creating a brief protocol, gathering and analysing data, and outlining a surveillance system. Additionally, students took part in district health management meetings, community education campaigns, and other public health initiatives happening at the placement location alongside their supervisor. The final week of the elective saw the students return to Nairobi, where they wrote a report and presented a formal presentation outlining the background, procedures, conclusions, and suggestions they had drawn from their data analysis.

Conclusion

Lectures, case studies, and exercises for small groups were all part of the didactic curriculum. Six hours of instruction per day were allocated to the curriculum over the course of five days. These didactic courses comprised discussions on epidemiology, surveillance, response, and elementary data analysis. Staff from Kenya FELTP and the US

Centers for Disease Control and Prevention served as the session's teachers (CDC). Graduates and second-year Kenya FELTP residents assisted with the case studies and group activities. It was deemed to be extremely acceptable to establish a field epidemiology and public health surveillance elective for medical students. The elective also provides a forum for sparking interest in public health jobs among Kenyan medical students by raising understanding of field epidemiology and practical components of public health. The creation of a pyramidal training strategy with more advanced abilities can be supplied throughout the in-service stages as district medical officers and FELTP residents thanks to training in epidemiology and surveillance during the pre-service stage. A co-operation between the Ministry of Health and a school of public health from the United States is advised for any nation interested in creating comparable platforms based on this experience.

The targeted medical students attend university training. This elective's achievement required a direct collaboration between the Ministry of Health and an academic organisation. In a perfect partnership, Ministry of Health employees would serve as adjunct professors at the institution, supervising and grading medical students under their direct supervision. The didactic sessions of the elective could be made available to lots of students for a more extensive implementation of this platform.

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