DIRECT FROM CDC ENVIRONMENTAL HEALTH SERVICES BRANCH

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Environmental Public Health Online Course (EPHOC) Series: Are We Making a Difference?

Editor's Note: NEHA strives to provide up-to-date and relevant information on environmental health and to build partnerships in the profession. In pursuit of these goals, we feature a column from the Environmental Health Services Branch (EHSB) of the Centers for Disease Control and Prevention (CDC) in every issue of the *Journal*.

In this column, EHSB and guest authors from across CDC will highlight a variety of concerns, opportunities, challenges, and successes that we all share in environmental public health. EHSB's objective is to strengthen the role of state, local, tribal, and national environmental health programs and professionals to anticipate, identify, and respond to adverse environmental exposures and the consequences of these exposures for human health.

The conclusions in this article are those of the author(s) and do not necessarily represent the views of CDC.

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In 2007, the University of Alabama at Birmingham's (UAB) School of Public Health (SOPH), the Jefferson County (Alabama) Department of Health (JCDH), NEHA, and the Centers for Disease Control and Prevention's National Center for Environmental Health (CDC/NCEH) partnered to begin development of a comprehensive online package of courses for environmental public health (EPH) practitioners. This series of courses, known as the Environmental Public Health Online Courses (EPHOC), was developed in response to the 2005 National Profile of Local Health Departments (National Association of County and City Health Officials, 2007), which indicated that many local health departments suffer from a lack of basic workforce development infrastructure, insufficient training budgets, and a shortage of designated staff persons to coordinate training. This series of courses, launched in its completion in 2010, is the first of its kind for public health discipline-specific workforce development training.

The EPHOC package provides over 45 hours of instruction through 15 courses that mirror the chapters of the NEHA *Registered Environmental Health Specialist/Registered Sanitarian (REHS/RS) Study Guide* (see Sidebar). The courses are designed for both new EPH workers who wish to learn more about the spectrum of EPH practice and experienced EPH workers who are ready to pursue professional credentialing. A combination of leading academic professors and EPH practitioners provide lecture-style video presentations (Figure 1). Each course includes a pretest, a number of individual 20–40 minute modules, and a posttest. EPHOC courses are freely available and accessible without charge through a learning management system operated by the South Central Public Health Partnership for Workforce Development, which is a partnership among UAB SOPH; the Tulane University School of Public Health and Tropical Medicine; and the state health departments of Alabama, Louisiana, and Mississippi. Courses are available at www.southcentralpartnership.org/EPHOC.

EPHOC courses are evaluated according to Kirkpatrick's four-level taxonomy for training evaluation. Level I (program level satisfaction) and Level II (knowledge) evaluation data are collected at the time participants complete courses. To determine to what degree the information learned in the EPHOC courses has been applied in carrying out daily job duties and to determine the utility of the program in preparation of the REHS/RS professional credentialing exam, a follow-up survey was conducted. At the time the electronic survey was sent out in the fall of 2012, 1,906 individuals had completed one or more of the EPHOC courses. Of these, 355 responded to the survey for an 18.63% response rate.

Of the respondents, 53.42% reported having a bachelor's degree or higher and 50% indicated that they have an environmental health–related degree. The mean age of respondents was 44.23 years with an average

FIGURE **1**

Screenshot From Environmental Public Health Online Course Training on Food Protection

Environmental Public Health Online Course Topics

1. General Environmental Health
2. Statutes and Regulations
3. Food Protection
4. Potable Water
5. Wastewater
6. Solid and Hazardous Waste
7. Hazardous Materials
8. Zoonoses, Vectors, Pests, and Weeds
9. Radiation Protection
10. Occupational Safety and Health
11. Air Quality and Environmental Noise
12. Housing Sanitation and Safety
13. Institutions and Licensed Establishments
14. Swimming Pools and Recreational Facilities
15. Disaster Sanitation

of 10.47 years of EPH experience and 7.22 years in their current position.

Respondents were asked to rate the following on a scale of 1 to 10:

- Their level of satisfaction of the EPHOC series as a whole,
- how useful they found the EPHOC courses to be in providing information needed to perform their job role, and
- the degree to which they were able to apply the knowledge they learned in their daily jobs.

Overall, the results were positive:

- Regarding level of satisfaction with the EPHOC series as a whole, 73.73% of respondents gave a rating of 8 or better. (Scale: 1 = not at all satisfied to 10 = extremely satisfied.)
- Regarding usefulness of the EPHOC course in providing information needed to perform their job role, 64.23% gave a rating of 8 or better. (Scale: 1 = not at all to 10 = critical.)
- Regarding the degree to which respondents were able to apply the knowledge they learned to their daily job, 51.06% gave a rating of 8 or better. (Scale: 1 = not at all to 10 = often.)

Furthermore, the survey provides preliminary findings that EPHOC may be a powerful study tool for preparing for the REHS/RS exam. Survey respondents who took the EPHOC courses before taking the REHS/RS exam passed at a higher rate than those who did not take the EPHOC course first. The success rate of passing the REHS/RS exam before taking EPHOC was 60.41% (29 of 48) while the success rate after taking the EPHOC courses was 90.90% (30 of 33). Sixty percent (18 of 30) of those who reported taking the REHS/RS exam after completing the EPHOC course reported that the EPHOC courses were helpful to them in preparing for the REHS/RS exam.

Although it is a new program, EPHOC has already identified some areas of improvement. The number-one complaint about the training is related to lost time and course accessibility. Currently it is necessary to alternate between two different e-learning platforms to view course modules. Hiring a programmer to streamline EPHOC into a singular learning management platform could address this problem. Another future need for EPHOC is to periodically update it to ensure it is relevant to the profession and stays in alignment with REHS/RS exam content.

Collectively, these results provide preliminary evidence that the EPHOC participants found the 15-course series satisfactory and useful in providing information applicable to their daily jobs. In general, a majority of the respondents rated the courses not only applicable to their daily job duties, but also helpful in preparation for and passing the REHS/RS exam.

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