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Innovative Safe Water Program Improvement E-Learning for Environmental Health Professionals

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The Centers for Disease Control and Prevention's (CDC) National Center for Environmental Health (NCEH) released a free e-learning curriculum in January 2018 titled "Safe Water Program Improvement (SWPI)." With approximately 34 million American residents served by privately owned wells (NGWA, 2016), there is a need for training on how health departments can improve their services to homeowners. CDC developed the curriculum for state, local, tribal and territorial health departments as a resource to improve safe drinking water programs focused on private wells and other federally unregulated drinking water. CDC designed the SWPI curriculum using the 10 Essential Environmental Public Health Services (EPPHSs) (Figure 1) and the Environmental Public Health Performance Standards (CDC, 2014) as frameworks.

CDC developed the e-learning series through a partnership with the National Network of Public Health Institutes (NNPHI), Texas Health Institute, Tulane University School of Public Health and Tropical Medicine Center for Applied Environmental Health, and the National Environmental Health Association (NEHA). Two environmental health subject matter experts authored the nine courses with continual feedback from all partners. The

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e-learning series uses the latest technology for enhanced learner-centric interaction with engaging graphics. The average time to finish each course ranges from one to two hours depending on how the learner uses resources and tools.

Course Highlights

The SWPI e-learning series is firmly rooted in best public health practices consisting of an introduction and three core public health functions: Assessment, policy development, and assurance. SWPI consists of nine courses that take the learner through lessons and activities following the 10 EEPHSs. Each lesson in the SWPI courses has knowledge checks to help the learner understand and apply the content. There are scenarios that help the learner think through and resolve problems using course content. Following a required introductory course, SWPI 101, eight courses cover the 10 EEPHSs (Table 1).

The e-learning curriculum employs a “branching role play” technique that presents a complex, real-life example of a public health problem associated with private wells. The courses help the learner to understand how to operationalize the 10 EEPHSs as the problem unfolds. Additionally, learners have the opportunity to access tools and resources to improve partnering, outreach, communications, and research and evaluation skillsets. An engaging graphic from SWPI 104 (Figure 2), shows a methodical approach that the learner can use when developing a health communication plan. Resources linked to this course provide communication examples.

Particularly useful for the learner is how some courses define the role of the environmental health professional in safe water programs focused on federally unregulated drinking water. This is especially true in the courses addressing policy and plans, and laws and regulations. Another topic for environmental health managers who take the training is how to maintain and assure a competent workforce. The curriculum also provides some content for management and examples that address workforce recruitment and retention, and emphasizes a proactive approach to comprehensive workforce planning.

Individuals completing all courses and the final exam will receive a certificate of completion and have the option to receive continuing education credit through NEHA. In addition, the courses are cross-walked with the Public Health Accreditation Board domains and standards that can help programs working towards public health accreditation.

Conclusion

The SWPI e-learning series provides much needed training at no cost to environmental and public health professionals working in safe water programs focused on federally unregulated drinking water. The curriculum provides practical and informative examples of operationalizing the 10 EEPHSs. There are course-specific tools and resources to help learners apply their new knowledge in the field and help them to improve their own program. The e-learning series allows the learner to complete continuing education credit in a convenient, self-paced environment. The courses use a framework and learning approach that will benefit agencies seeking accreditation through the Public Health Accreditation Board. In addition to the references linked to each course, there are tools and resources at

the CDC's Food, Water, and Environmental Health Services Branch homepage under the Safe Water section (<https://www.cdc.gov/nceh/ehs/>) and through NNPHI's Public Health Learning Network (www.nnphi.org). This e-learning series is a practical tool for all environmental health professionals interested in improving the performance and quality of their safe drinking water programs.

References

- Centers for Disease Control and Prevention. (2014). Environmental Public Health Performance Standards (Version 2.0). Updated May. <https://www.cdc.gov/nceh/ehs/envphps/docs/EnvPHPSv2.pdf>
- National Groundwater Association (NGWA). (2016). Groundwater Use in the United States of America. Westerville OH: NGWA. <http://www.ngwa.org/Fundamentals/Documents/usa-groundwater-use-fact-sheet.pdf>

Drinking water and other environmental health staff tested each course in the series during the pilot testing phase. Nine of 10 pilot testers said they would recommend the curriculum to colleagues. “This course will allow me to think more on the sources of unregulated drinking water instead of totally focusing on the public sources of water. It will also help me be ready with answers to questions from people using unregulated drinking water sources.” Pilot Tester Comment

Learn More at:

- Steps to Improve Drinking Water Programs: <https://www.cdc.gov/nceh/ehs/safe-watch/steps-to-improve.html>
- Safe Water Performance Improvement e-learning series course registration: <http://lms.southcentralpartnership.org/swpi.php>
- Improving Environmental Public Health Services Performance to Meet Community Needs (CDC, 2014) <https://www.cdc.gov/nceh/ehs/envphps/docs/improving-eph-serv-perf-comm.pdf>



Figure 1:
The 10 Essential Environmental Public Health Services Wheel

http://lms.southcentralpartnership.org/mod/scorm/player.php?a=325¤torg=&scoid=996&sesskey= - Internet Explorer

http://lms.southcentralpartnership.org/mod/scorm/player.php?a=325¤torg=&scoid=996&sesskey=Px4EH6E89o&display=popup&mode=normal

Safe Water Program Improvement Policy Development: Inform, Educate, Empower, and Mobilize

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Lesson 1: Health Communication Planning
Topic 2: Health Communication Plan

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Health Communication Plan Steps

For more information on developing a Health Communications Plan see Links

Develop and pretest message concepts

Implement communication strategies and conduct process evaluation

How do we get it out there?

Conduct outcome and impact evaluation*

How well did we do?

What's out there?

Who do we want to reach?

Where do we want to say it?

How do we get it used?

How do we want to say it?

Review background information to define the problem

Analyze and segment target audiences

Develop a promotional strategy and tactics

Set communication objectives

Select, create and pretest messages and products

*Outcome evaluation measures program effects in the target population by assessing the progress in the outcomes that the program is to address. Impact evaluation assesses program effectiveness in achieving its ultimate goals.

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Figure 2.
Example of Course Screen on Health Communication Planning

Table 1.

SWPI E-Learning Courses and the 10 Essential Environmental Public Health Services

Course Number	Core Public Health Function	Course Name
SWPI 101	Introduction	The 10 Essential Environmental Public Health Services and Unregulated Drinking Water Programs
SWPI 102	Assessment	Monitor Health
SWPI 103		Diagnose and Investigate
SWPI 104	Policy Development	Inform, Educate, Empower, and Mobilize
SWPI 105		Policies and Plans
SWPI 106	Assurance	Laws and Regulations
SWPI 107		Linking People to Services
SWPI 108		Assuring a Competent Workforce
SWPI 109		Evaluation and Research

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